The American College

Re-accredited (2nd cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4 point scale
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
(A Mentor Institution)

Madurai – 625 002

MEETING OF THE ACADEMIC COUNCIL
October 2020 Session

Saturday 19 December 2020
3.45 P.M. ONLINE

APPENDIX – AQ

AGENDA

1. Prayer

2. Welcome—Dr. M. Davamani Christober, Principal & Secretary

3. Confirmation of the minutes of the meeting of the Academic Council held on Wednesday, 28 October 2020

4. Special Resolutions

5. Department Resolutions

6. Observations from the External Members

7. Other Matters, if any

8. Vote of Thanks – Dr. D. Lourdu Immaculate

THE AMERICAN COLLEGE, MADURAI
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
(Re-accredited (2nd cycle) by NAAC with Grade 'A' & CGPA of 3.46 on a Point Scale)
(A Mentor Institution)

MINUTES OF THE ACADEMIC COUNCIL MEETING HELD ON WEDNESDAY 28 OCTOBER 2020 at 4 PM ONLINE THROUGH ZOOM APP

Dr. M. Davamani Christober, Principal & Secretary, was in the chair.

Prayer

The meeting started with prayer by Chaplain Rev. John J Kamaraj.

Introduction

The Principal welcomed all the members of the Academic Council to the 42nd meeting on behalf of the college and extended a special word of welcome to the external members who represented the various constituents.

In his brief introductory remarks, he mentioned that all the members were aware that the whole world was affected by the pandemic. However, the pandemic could not destroy the human schedule though it could delay it. He said that education is one such area of human life where things had been delayed. At the same time, the whole world realized that technology had enormous potentials to make up whatever delays the pandemic had caused.

Milestones at the College

The principal then recalled for the sake of some of the external members the contours of the academic journey that The American College had travelled. It is a pioneering institution in the country as far as innovations in higher education are concerned. He wished to bring to the kind attention of the Council some of the bold innovations in which the college engaged itself.

1. The College took the lead in introducing semester pattern and BSc special programmes as early as 1970.

2. It prepared itself for college autonomy considering the recommendation of the Kothari Commission of 1964-66. It held a series of brainstorming sessions and faculty meetings to prepare for college autonomy. College autonomy was its choice and not

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

compulsion. We waited for nearly a decade for the state government to take a policy decision. As a result, academic autonomy was conferred on the college in 1978.

3. After deliberations, the college volunteered for the first cycle of NAAC accreditation and got the FIVE STAR status in 2000.

4. The college received the UGC grant and recognition to start community college in 2014.

5. It is one of the very few colleges in the state, perhaps one of the two in the city, to be recognized by the UGC as a Mentor College for five mentee institutions in 2019.

6. This academic year, it received four more B.Voc and four MVoc programmes. Altogether, it offers 8 BVoc and 4 MVoc UGC sponsored programmes right now.

7. Our is the only college in the south to offer MHRD-sponsored, UGC recognized Apprenticeship-embedded Bachelor in Management Studies (BMS) with a minimum of Rs.9000 as monthly stipend to all 60 students in the final year.

Welcome to the Members

Then, the principal formally welcomed the external members:

1. First, he welcomed all the university representatives. The three university professors who represent the university in the Academic Council.

    i. Dr. Lellis Thivagar is the Chairperson of the School of Mathematics and Member Syndicate of Madurai Kamaraj University. He also serves as a member of the Board of Studies in Mathematics in our college. He has served as University representative in the Appointments Committee of our college.

    ii. Dr. J. Vijayadurai is former Director of DDE and Professor of Management Studies in School of Business Studies at MKU.

    iii. Dr. S. Rajashabala is a former Member Syndicate and Head in-charge of Department of Theoretical Physics in School of Physics at MKU.

2. Then, the Chair introduced and welcomed other external members who represent different walks of life:

    i. Dr. Hani Babu Vincent, a distinguished alumnus, represents industry. He is the proprietor of Hana Medical Supplies in Dubai and Scientific Chemical Technologies in the USA.

    ii. Dr. S. Rajesh Alphonse represents commerce. He is the proprietor of Santhosh Metal Corporation, Chennai.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

iii. Mr. M.E. Ilango is a leading advocate in the Madurai Bench of Madras High Court. Thus he represents Law.

iv. Dr. A. Wilson Aruni, an outstanding educationist and academic, is the Pro-Chancellor of Sathyabama Institute of Science and Technology, Chennai. His contribution to the college is immense. In fact, he is a strong friend of the college.

v. Dr. J. Daniel Chellapa is a senior scientist with Bhabha Atomic Research Cetre, Chennai. He is the senior most external member of the Academic Council of our college representing higher education.

vi. Dr. M. Paul Sudhakar represents medicine. He is a leading physician in Apollo Hospitals, Madurai.

3. Finally, the principal welcomed the Dean of Academic Policies and Administration, Vice Principal, Bursar, all the heads, coordinators and directors of different academic departments. I also extended a special word of welcome to the Additional Dean of Academic Policies and Administration, Dean of International Exchange & Study Abroad, and the college librarian as special invitees.

Four-tier Discussion of Proposals

He brought to the attention of the Council that each proposal that sought approval from the Academic Council was completely discussed at four levels by different stakeholders.

- First, Department discussed each one of them on the basis of student feedback conducted periodically.

- Second, it was discussed in the Board of Studies in your department with student representatives.

- Third, it was further discussed in the college Senatus, which is a statutory body.

- Fourth, there was an exclusive online faculty meeting held on Thursday 22 october 2020 to discuss all the proposals.

Summary of Resolutions

The Chair observed that there were altogether 75 resolutions. Five of them were special resolutions and the remaining 70 from the postgraduate and undergraduate departments. He highlighted the summary of most of the resolutions that sought to introduce value added courses in all departments. He was very happy to share with the council that the college was

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

introducing value added courses uniformly in all the academic programmes from the academic year 2020-2021. He recalled that some departments like English, Hindi and French sought approval from the Academic Council in 2015 to offer certificate courses and Visual Communication in 2018. These courses were by and large skill-oriented and employment-promoted. However, NAAC was expecting all higher educational institutions to offer value added courses that might possibly contribute to graduate outcomes in the chosen disciplines.

Procedures for the Conduct of the Online Meeting

The Chair explained the agenda and the order in which the resolutions would be taken up for discussion, adoption, and ratification.

i. First, the minutes of the previous meeting held in October 2019 for adoption.

ii. Then, the Dean of Academic Policies and Administration will move the special resolutions and all would be seconded by the Additional Dean of Academic Policies.

iii. Third, Heads of 17 postgraduate departments would briefly introduce the background of their proposals and then move the resolution. All would be seconded by members who had been entrusted with the task. He said he would also read out the names of the proposer and seconder for the convenience of all members.

iv. Fourth, the same procedure would be followed for undergraduate departments.

v. Then, comments/suggestions from the external members would be invited.

vi. After discussion on other matters, if any, the Additional Dean of Polices Dr. D. Lourdu Immaculate would be invited to propose a vote of thanks.

vii. He also requested the members to open the link posted in the char box and fill the form for registering their attendance.

Confirmation of the Minutes of the Previous Meeting

The Minutes of the previous meeting held on Friday 24 October 2019 had already been circulated to the members along with the Appendix AP. The Chair asked if the minutes could be adopted. Since all the members agreed, the minutes of the previous meeting held on Friday 24 October 2019 **was passed unanimously.**

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Matters Arising out of the Previous Minutes

Mr. S. Stephen, Head of the Postgraduate Department of Mathematics observed that his comments on the special resolutions moved in the previous Academic Council meeting held on Friday 24 October 2019 were missing. The Chair directed the member to approach Dr. J. John Sekar, Dean of Academic Policies and Administration for inclusion of the same in the minutes.

Addendum

Mr. S. Stephen observed the following.

1. Minute step-by-step rules need not be brought to the academic council. Instead, a rule-book could be prepared so that all the faculty members could scrupulously follow them.

2. Certain resolutions empower the Controller of Examinations and it was not a healthy practice as far as examinations were concerned.

3. These resolutions undermine the role of the heads of the departments.

Since no member lent support to these observations, the Chair ruled that Mr. S. Stephen's observations be minuted.

SPECIAL RESOLUTIONS

SR1: As Recommended by the Senatus, RESOLVED to accept the proposal that value-added courses as part of NAAC requirement be offered to all students in all semesters outside the curriculum with retroactive effect from 2018-2019 (18 UG series) 2019-2020 (19 UG & 19 PG series) and for all other UG & PG students admitted from the academic year 2020-2021on optional basis as approved by the respective boards of studies with details found on pages from SR 1 to SR 4.

Resolution was moved by Dr. J. John Sekar and seconded by Dr. D. Lourdu Immaculate.

Mr. S. Stephen observed that there was some contradiction between the resolution and the department resolutions as far as the adoption of the same with retrospective effect from 18UG and 19PG series in the special resolution but from the 2020-2021 in the department resolutions.

Dr. J. John Sekar, Dean of Policies, explained the intention behind the introduction and extension of the value added courses to the 18 UG and 19PG series on the ground that these stand-alone courses could be beneficial to them as well as they were expected to the graduate attributes that the college and departments had identified in the form of

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

offered outside the curriculum as per the NAAC directives and thus they would not cause any prejudice to the students were on rolls but admitted prior to 2020.

Dr. A. Wilson Aruni, Pro-Chancellor of Sathyabama Institute of Science & Technology, Deemed to be University pointed out that the faculty had thoroughly discussed all aspects of these resolutions in other forums and that it was a worthy practice of a legacy institution like the American College. He also said that the Dean's explanation was quite convincing and that the student-centric intention should not be questioned.

Resolution was **passed unanimously**.

SR2: As Recommended by the Senatus, RESOLVED to accept the proposal that continuous internal assessment (CIA) and End-of-Semester Examinations be conducted online for value added courses even after the college resumes face-to-face instruction and examination.

Mr. S. Stephen observed that the resolution mentioned online examination of value added course but silent about the online classes.

Dr. J. John Sekar drew the attention of the members to the appendix where it was mentioned that value added courses would be offered outside the curriculum and only online even after the face-to-face classes resumed. Students of Shift I would attend online value added classes in the afternoon and the students of Shift II would attend online value added classes in the forenoon.

Resolution was moved by Dr. J. John Sekar and seconded by Dr. D. Lourdu Immaculate. Resolution was **passed unanimously**.

SR3: As Recommended by the Senatus, RESOLVED to accept the norms for certification of value added courses as found on page SR 5.

Resolution was moved by Dr. J. John Sekar and seconded by Dr. D. Lourdu Immaculate. Resolution was **passed unanimously**.

SR4: As Recommended by the Faculty, RESOLVED to accept the proposal that the acronym of the aided departments to be prefixed before programme codes and course codes in additional sections offered under self-financed stream as details presented on page from SR 6 to SR 7 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. John Sekar and seconded by Dr. D. Lourdu Immaculate. Resolution was **passed unanimously**.

SR5: As Recommended by the Faculty, RESOLVED to continue the practice of using acronyms of self-financed departments that offer additional sections of aided programmes in student roll numbers for administrative contingencies.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Resolution was moved by Dr. J. John Sekar and seconded by Dr. D. Lourdu Immaculate.

Resolution was **passed unanimously**.

POSTGRADUATE DEPARTMENT

R6: As recommended by the Board of Studies in Tamil, RESOLVED to approve the Value Added Courses for MA Tamil as presented on page PGT 1 and the syllabi for the courses for semesters I & III as presented on pages from PGT 1 to PGT 4 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Sarojini and seconded by Dr. J. Evanjelin Manoharan.

Resolution was **passed unanimously**.

R7: As recommended by the Board of Studies in English, RESOLVED to approve the Value Added Courses for MA English as presented on page PGE 1 and the syllabi for semesters I & III semesters as presented on pages from PGE 23 to PGE 24 with effect from the academic year 2020-2021.

Resolution was moved by Dr. S. Stanley Mohandoss Stephen and seconded by Dr. G. Dominic Savio.

Resolution was **passed unanimously**.

R8. As recommended by the Board of Studies in English, RESOLVED to approve the changes in the programme of studies for MA English as presented on pages from PGE 1 and the syllabi for semesters I & II as presented on pages from PGE 4 to PGE 22 with effect from the academic year 2020-21.

Resolution was moved by Dr. S. Stanley Mohandoss Stephen and seconded by Dr. G. Dominic Savio.

Resolution was **passed unanimously**.

R9. As recommended by the Board of Studies in Mathematics, RESOLVED to approve the Value Added Courses for MSc Mathematics as presented on page PGM 1 and the syllabi for semesters I, III& IV as presented on pages from PGM 1 to PGM 6 with effect from the academic year 2020-2021.

Resolution was moved by Dr. S. Stephen and seconded by Mr. J. Jesupaul Thangaraj.

Resolution was **passed unanimously**.

R10. As recommended by the Board of Studies in Physics, RESOLVED to approve the Value Added Courses for MSc Physics as presented on page PGP 1 and the syllabi for semesters I, II, III & IV as presented on pages from PGP 2 to PGP 8 with effect from the academic year 2020-2021.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Resolution was moved by Dr. A. Robson Benjamin and seconded by Dr. K. Gnanasekar.

Resolution was **passed unanimously**.

R11. As recommended by the Board of Studies in Chemistry, RESOLVED to approve the Value Added Courses for MSc Chemistry as presented on page PGC 1 and the syllabi for semesters I, II, III & IV as presented on pages from PGC 1 to PGC 8 with effect from the academic year 2020-2021.

Resolution was moved by Dr. K. John Adaikalasamy and seconded by Dr. C.D. Sheela.

Resolution was **passed unanimously**.

R12. As recommended by the Board of Studies in Botany, RESOLVED to approve the Value Added Courses for MSc Botany as presented on page PGB 1 and the syllabi for semesters I&II as presented on pages from PGB 1 to PGB 4 with effect from the academic year 2020-2021.

Resolution was moved by Dr. G.C. Abraham and seconded by Dr. S. Rajkumar Immanuel.

Resolution was **passed unanimously**.

R13. As recommended by the Board of Studies in Zoology, RESOLVED to approve the Value Added Courses for MSc Zoology as presented on page PGZ 1 and the syllabi for semesters I, II, III & IV as presented on pages from PGZ 1 to PGZ 11 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Joseph Thatheyus and seconded by Dr. E. Joy Sharmila.

Resolution was **passed unanimously**.

R14. As recommended by the Board of Studies in Economics, RESOLVED to approve the Value Added Courses for MA Economics as presented on page PEC 1 and the syllabi for semesters I & III as presented on pages from PEC 1 to PEC 3 with effect from the academic year 2020-2021.

Resolution was moved by Dr. C. Muthuraja and seconded by Dr. G. Kannabiran

Resolution was **passed unanimously**.

R15. As recommended by the Board of Studies in Commerce, RESOLVED to approve the Value Added Courses for M.COM as presented on page PCO 1 and the syllabi for semesters I and III as presented on pages from PCO 1 to PCO 4 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Justin Manohara and seconded by Dr. A. Martin David

Resolution was **passed unanimously**.

R16. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for MCA as presented on page MCA 3 and the

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

syllabi for semesters I, III & V as presented on pages from MCA 62 to MCA 67 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Frank Reuban and seconded by Ms. T. Suganya

Resolution was **passed unanimously**.

R17. As recommended by the Board of Studies in Computer Science, RESOLVED to accept the restructuring of the three year MCA programme into two year MCA programme, and to approve the changes in the programme of studies for MCA as presented on pages from MCA 2 to MCA 3 and the syllabi for semesters I to IV as presented on pages from MCA 7 to MCA 61 with effect from the academic year 2020-21.

Resolution was moved by Dr. J. Frank Reuban and seconded by Ms. T. Suganya

Resolution was **passed unanimously**.

R18. As recommended by the Board of Studies in Computer Science, RESOLVED to accept the programme of study in MSc Data Science as presented on page PDS 2 and the syllabi for semesters I & II as presented on page PDS 7 to PDS 39 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Frank Reuban and seconded by Dr. A. John Sanjeev Kumar.

Resolution was **passed unanimously**.

R19. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for MSc Data Science as presented on page PDS 2 and the syllabi for semester I as presented on pages from PDS 40 to PDS 41 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Frank Reuban and seconded by Dr. A. John Sanjeev Kumar.

Resolution was **passed unanimously**.

R20. As recommended by the Board of Studies in Microbiology, RESOLVED to approve the Value Added Courses for MSc Microbiology as presented on page MIM 1 and the syllabi for semesters I, II, III & IV as presented on pages from MIM 2 to MIM 9 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Joseph Thatheyus and seconded by Mr. M. Andrew Pradeep.

Resolution was **passed unanimously**.

R21. As recommended by the Board of Studies in Business Administration, RESOLVED to approve the Value Added Courses for MBA as presented on page MBA 3 and the syllabi for semesters I and III as presented on pages from MBA 41 to MBA 44 with effect from the academic year 2020-2021.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Resolution was moved by Dr. R. Albert Christopher Dhas and seconded by Dr. S.C.B. Samuel Anbu Selvan.

Resolution was **passed unanimously**.

R22. As recommended by the Board of Studies in Business Administration, RESOLVED to accept the changes in the programme of studies for MBA as presented on pages from MBA 2 to MBA 3 and the syllabi for semesters I and II as presented on pages from MBA 6 to MBA 40 with effect from the academic year 2020-21.

Resolution was moved by Dr. R. Albert Christopher Dhas and seconded by Dr. S.C.B. Samuel Anbu Selvan.

Resolution was **passed unanimously**.

R23. As recommended by the Board of Studies in Social Work, RESOLVED to approve the Value Added Courses for MA Social Work as presented on page MSW 3 and the syllabi for semesters I and III as presented on pages from MSW 31 to MSW 34 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Augustus Julian Lazmey and seconded by Mr. A. Chinnadurai Pandian.

Resolution was **passed unanimously**.

R24. As recommended by the Board of Studies in Social Work, RESOLVED to accept the changes in the programme of studies for MA Social Work as presented on pages from MSW 1 to MSW 2 and the syllabi for semesters I and II as presented on pages from MSW 6 to MSW 30 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Augustus Julian Lazmey and seconded by Mr. A. Chinnadurai Pandian.

Resolution was **passed unanimously**.

R25. As recommended by the Board of Studies in Psychology, RESOLVED to accept the programme of studies for MSc Applied Psychology as presented on pages from PAP 1 to PAP 3 and the syllabi for semesters I and II as presented on pages from PAP 6 to PAP 66 with effect from the academic year 2020-2021.

Resolution was moved by Dr. M. Suresh Kumar and seconded by Dr. K. Nithya

Resolution was **passed unanimously**.

R26. As recommended by the Board of Studies in Psychology, RESOLVED to approve the Value Added Courses for MSc Applied Psychology as presented on page PAP 3 and the syllabi for semesters I, II, III, & I as presented on pages from PAP 67 to PAP 70 with effect from the academic year 2020-2021.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Resolution was moved by Dr. M. Suresh Kumar and seconded by Dr. K. Nithya

Resolution was **passed unanimously**.

R27. As recommended by the Board of Studies in Visual Communication, RESOLVED to accept the programme of studies for MSc Visual Communication as presented on pages from PGV 1 and the syllabi for semesters I to IV as presented on pages from PGV 5 to PGV 40 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Shylaja and seconded by Ms. Shanmuga Mohana.

Resolution was **passed unanimously**.

R28. As recommended by the Board of Studies in Visual Communication, RESOLVED to approve the Value Added Courses for MSc Visual Communication as presented on page PGV 1 and the syllabi for semesters I, II, III, & IV as presented on pages from PGV 41 to PGV 49 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Shylaja and seconded by Ms. Shanmuga Mohana.

Resolution was **passed unanimously**.

R29. As recommended by the Board of Studies in Food Science & Nutrition, RESOLVED to approve the Value Added Courses for MSc Food Science & Nutrition as presented on page PFN 1 to PFN 2 and the syllabi for semesters I & III as presented on pages from PFN 7 to PFN 48 with effect from the academic year 2020-2021.

Resolution was moved by Dr. K. Nithya and seconded by Dr. M. Suresh Kumar.

Resolution was **passed unanimously**.

R30. As recommended by the Board of Studies in Food Science and Nutrition, RESOLVED to accept the changes in the programme of studies for MSc Food Science and Nutrition as presented on pages from PFN 2 and the syllabi for Semesters I to IV as presented on pages from PFN 49 to PFN 52 with effect from the academic year 2020-2021.

Resolution was moved by Dr. K. Nithya and seconded by Dr. M. Suresh Kumar.
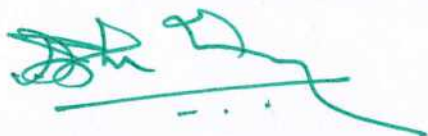
Resolution was **passed unanimously**.

UNDERGRADUATE DEPARTMENTS

R31. As recommended by the Board of Studies in Tamil, RESOLVED to approve the Value Added Courses for BA Tamil as presented on page TAM 2 and the syllabi for semestersI, III and V as presented on pages from TAM 35 to TAM 37 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Evanjelin Manoharan and seconded by Dr. J. Sarojini

Resolution was **passed unanimously**.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

R32. As recommended by the Board of Studies in Tamil, RESOLVED to accept the changes in the programme of studies for BA Tamil as presented on pages from TAM 1 to TAM 2 and the syllabi for semesters I and II as presented on pages from TAM 5 to TAM 34 with effect from the academic year 2020-2021.

Resolution was moved by Dr. J. Evanjelin Manoharan and seconded by Dr. J. Sarojini

Resolution was **passed unanimously**.

R33. As recommended by the Board of Studies in Hindi, RESOLVED to approve the Value Added Courses for BA Hindi as presented on page HIS 6 and the syllabi for semesters I, III and V as presented on pages from HIS 17 to HIS 22 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Saframma and seconded by Mr. A. Chinnadurai Pandian.

Resolution was **passed unanimously**.

R34. As recommended by the Board of Studies in Hindi, RESOLVED to approve the changes in the programme of studies for BA Hindi presented on pages from HIS 3 and HIS 5 and the syllabi for Part I, Part III, Life Skills courses and NME courses in Semesters I and II as presented on pages from HIS 7 to HIS 16 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Saframma and seconded by Mr. A. Chinnadurai Pandian.

Resolution was **passed unanimously**.

R35. As recommended by the Board of Studies in French, RESOLVED to approve the Value Added Courses for BA French as presented on page FRS 2 and the syllabi for semesters I to VI as presented on pages from FRS 12 to FRS 20 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Chinnadurai Pandian and seconded by Mr. T. Augustus Julian Lazmey.

Resolution was **passed unanimously**.

R36. As recommended by the Board of Studies in French, RESOLVED to accept the changes in the programme of studies for BA French presented on pages from FRS 1 to FRS 2 and the syllabi for Semesters III & IV as presented on pages from FRS 4 to FRS 11 with effect from the academic year 2019-2020.

Resolution was moved by Dr. A. Chinnadurai Pandian and seconded by Mr. T. Augustus Julian Lazmey.

Resolution was **passed unanimously**.

R37. As recommended by the Board of Studies in English, RESOLVED to approve the Value

Added Courses for BA English as presented on page ENG 3 and the syllabi for semesters I, III and V as presented on pages from ENG 25 to ENG 27 with effect from the academic year 2020-2021.

Resolution was moved by Dr. G. Dominic Savio and seconded by Dr. S. Stanley Mohandoss Stephen.

Resolution was **passed unanimously**.

R38. As recommended by the Board of Studies in English, RESOLVED to accept the changes in the programme of studies for BA English as presented on pages from ENG 1 to ENG 3 and the syllabi for semesters I and II as presented on pages from ENG 6 to ENG 24 with effect from the academic year 2020-2021.

Resolution was moved by Dr. G. Dominic Savio and seconded by Dr. S. Stanley Mohandoss Stephen.

Resolution was **passed unanimously**.

R39. As recommended by the Board of Studies in Mathematics, RESOLVED to approve the Value Added Courses for BSc Mathematics as presented on page MAT 1 and the syllabi for semesters I, III, V & VI as presented on pages from MAT 4 to MAT 9 with effect from the academic year 2020-2021.

Resolution was moved by Mr. J. Jesupaul Thangaraj and seconded by Mr. S. Stephen.

Resolution was **passed unanimously**.

R40. As recommended by the Board of Studies in Mathematics, RESOLVED to approve the course MAT1472 for BSc Data Science as presented on page MAT 1 and the syllabus for the course as presented on pages from MAT 2 to MAT 3 with effect from the academic year 2020-2021.

Resolution was moved by Mr. J. Jesupaul Thangaraj and seconded by Mr. S. Stephen.

Resolution was **passed unanimously**.

R41. As recommended by the Board of Studies in Physics, RESOLVED to approve the Value Added Courses for BSc Physics as presented on page PHY 1 and the syllabi for semesters for I to VI as presented on pages from PHY 1 to PHY 12 with effect from the academic year 2020-2021.

Resolution was moved by Dr. K. Gnanasekar and seconded by Dr. R. Daphine

Resolution was **passed unanimously**.

R42. As recommended by the Board of Studies in Chemistry, RESOLVED to approve the Value Added Courses for BSc Chemistry as presented on page CHE 1 and the syllabi for semesters I to VI as presented on pages from CHE 2 to CHE 14 with effect from the

academic year 2020-2021.

Resolution was moved by Dr. K. John Adaikalasamy and seconded by Dr. C.D. Sheela.

Resolution was **passed unanimously**.

R43. As recommended by the Board of Studies in Botany, RESOLVED to approve the Value Added Courses for BSc Botany as presented on page BOT 3 and the syllabi for semesters I, II, III & V as presented on pages from BOT 31 to BOT 38 with effect from the academic year 2020-2021.

Resolution was moved by Dr. S. Rajkumar Immanuel and seconded by Dr. G.C. Abraham.

Resolution was **passed unanimously**.

R44. As recommended by the Board of Studies in Botany, RESOLVED to accept the changes in the programme of studies for BSc Botany as presented on pages from BOT 1 to BOT 3 and the syllabi for semesters I and II as presented on pages from BOT 5to BOT 30 with effect from the academic year 2020-2021.

Resolution was moved by Dr. S. Rajkumar Immanuel and seconded by Dr. G.C. Abraham.

Resolution was **passed unanimously**.

R45. As recommended by the Board of Studies in Zoology, RESOLVED to approve the Value Added Courses for BSc Zoology as presented on page ZOO 3 and the syllabi for semesters for I to VI as presented on pages from ZOO 21 to ZOO 31 with effect from the academic year 2020-2021.

Resolution was moved by Dr. E. Joy Sharmila and seconded by Dr. P. Velladurai.

Resolution was **passed unanimously**.

R46. As recommended by the Board of Studies in Zoology, RESOLVED to accept the changes in the programme of studies for BSc Zoology as presented on pages from ZOO 1 to ZOO3 and the syllabi for the programme as presented on pages from ZOO 7 to ZOO 20 with effect from the academic year 2020-2021.

Resolution was moved by Dr. E. Joy Sharmila and seconded by Dr. T. Frederick Rajkumar.

Resolution was **passed unanimously**.

R47. As recommended by the Board of Studies in Economics, RESOLVED to approve the Value Added Courses for BA Economics as presented on page ECO 1 and the syllabi for semesters for I, III and V as presented on pages from ECO 1 to ECO 8 with effect from the academic year 2020-2021.

Resolution was moved by Dr. G. Kannabiran and seconded by Dr. S. Jeyarani.

Resolution was **passed unanimously**.

R48. As recommended by the Board of Studies in Economics, RESOLVED to accept the

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

programme of studies already approved by the Council for additional section in BA Economics (Self-financed) with effect from the academic year 2020-2021.

Resolution was moved by Dr. G. Kannabiran and seconded by Dr. S. Jeyarani.

Resolution was **passed unanimously**.

R49. As recommended by the Board of Studies in Commerce, RESOLVED to approve the Value Added Courses for BCOM, B.COM (CA), BCOM (IT), & BCOM (PA) as presented on page COM 28 and the syllabi for semesters for I, III and V as presented on pages from COM 29 to COM 34 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Martin David and seconded by Mr. J. Justin Manohar

Resolution was **passed unanimously**.

R50. As recommended by the Board of Studies in Commerce, RESOLVED to accept the changes in the programme of studies for BCOM as presented on pages from COM 1 to COM 3 and the syllabi for semesters III and IV as presented on pages from COM 4 to COM 27 with effect from the academic year 2019-2020.

Resolution was moved by Dr. R. Mary Sophia Chitra and seconded by Mr. J. Justin Manohar

Resolution was **passed unanimously**.

R51. As recommended by the Board of Studies in Commerce, RESOLVED to accept the changes in the programme of studies for BCOM (Computer Applications) as presented on pages from CMC1 to CMC3 and the syllabi for semesters III and IV as presented on pages from CMC4to CMC27 with effect from the academic year 2019-2020.

Resolution was moved by Dr. D. Kanakavalli and seconded by Dr. R. Mary Sophia Chitra.

Resolution was **passed unanimously**.

R52. As recommended by the Board of Studies in Commerce, RESOLVED to accept the changes in the programme of studies for BCOM (Information Technology) as presented on pages from CIT1 to CIT3 and the syllabi for semesters III and IV as presented on pages from CIT4 to CIT27 with effect from the academic year 2019-2020.

Resolution was moved by Dr. C. Antony Mary Vinothini and seconded by Dr. D. Kanakavalli.

Resolution was **passed unanimously**.

R53. As recommended by the Board of Studies in Commerce, RESOLVED to accept the study modules for the courses COM/CME/CMC/CIT 2461 *Information Technology* and COM/CME/CMC/CIT 2462 *E Commerce* for the second year B.Com students published by the Department of Commerce with effect from the academic year 2020-2021.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Resolution was moved by Dr. S.C.B. Samuel Anbu Selvan and seconded by Dr. A. Hillary Joseph.

Resolution was **passed unanimously**.

R54. As recommended by the Board of Studies in Religion, Philosophy & Sociology, RESOLVED to approve the Value Added Courses for BA RPS as presented on page RPS 1 and the syllabi for semesters for III and V as presented on pages from RPS2 to RPS 5 with effect from the academic year 2020-2021.

Resolution was moved by Dr. Arul Arasu Israel and seconded by Dr. T. Augustus Julian Lazmey.

Dr. Arul Arasu Israel said that he moved the resolution with objection to removing a course from the resolution and the appendix. The chair recalled how the Senatus decided to reject the value added course on Yoga, and how Dr. Arul Arasu Israel moved the same rejected resolution in the online faculty meeting. He also said that consequently, Dr Arul Arasu Israel had been asked to give explanation for his act.

Dr. J. John Sekar, Dean of Policies, recalled the lengthy discussion that Senatus had on the resolution and the chair's ruling to commit the resolution back to the department and the BOS for reconsideration. However, Dr. Arul Arasu Israel failed to convene the department meeting and the BOS with the permission from the Dean of Polices. His questioning the powers of the statutory body like the Senatus in the Academic Council and his demand for a copy of the minutes of the Senatus meeting before it was ratified by the Senatus in its subsequent meeting are fraught with dangerous implications of undermining the importance of the different bodies created under the Constitution for the smooth functioning of the College.

The Chair overruled the objection raised by Dr. Arul Arasu Israel. Subsequently, Resolution was **passed unanimously**.

R55. As recommended by the Board of Studies in Physical Education, RESOLVED to approve the Value Added Courses for BSc Physical Education as presented on page BPE 1 to BPE 2 and the syllabi for semesters for I, III and V as presented on pages from BPE 5 to BPE 24 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Surendran and seconded by Dr. A. Martin David.

Resolution was **passed unanimously**.

R56. As recommended by the Board of Studies in Physical Education, RESOLVED to accept the changes in the programme of studies for BSc Physical Education as presented on page from BPE and the syllabi for semester I as presented on pages from BPE to BPE

with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. Surendran and seconded by Dr. A. Martin David.

Resolution was **passed unanimously**.

R57. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for BSc Computer Science as presented on page COS 2 and the syllabi for semesters for I, III and V as presented on pages from COS 5 to COS 10 with effect from the academic year 2020-2021.

Resolution was moved by Rev. John J Kamaraj and seconded by Mr. K. Britto Alex.

Resolution was **passed unanimously**.

R58. As recommended by the Board of Studies in Computer Science, RESOLVED to accept the changes in the course COS 1202 for BSc Computer Science as presented on page COS 3 to COS 4with effect from the academic year 2020-2021.

Resolution was moved by Rev. John J Kamaraj and seconded by Mr. K. Britto Alex.

Resolution was **passed unanimously**.

R59. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for Bachelor of Computer Applications as presented on page BCA 1 and the syllabi for semesters for I, III and V as presented on pages from BCA 1 to BCA 6 with effect from the academic year 2020-2021.

Resolution was moved by Mr. K. Britto Alex and seconded by Dr. C. Mohan.

Resolution was **passed unanimously**.

R60. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for BSc Information Technology as presented on page BIT 3 and the syllabi for semesters for I, III and V as presented on pages from BIT 10 to BIT 15 with effect from the academic year 2020-2021.

Resolution was moved by Dr. M. Ravia Shabnam and seconded by Ms. T. Suganya.

Resolution was **passed unanimously**.

R61. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the changes in the programme for BSc Information Technology as presented on pages from BIT 1 to BIT 2 and the syllabus for semesters I & II as presented on pages from BIT 4 to BIT 9 with effect from the academic year 2020-2021.

Resolution was moved by Dr. M. Ravia Shabnam and seconded by Ms. T. Suganya.

Resolution was **passed unanimously**.

R62. As recommended by the Board of Studies in Computer Science, RESOLVED to accept the programme of studies in BSc Data Science as presented on pages from DSC 4 and

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

the syllabi for semesters I and II as presented on pages from DSC 29 to DSC 30 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. John Sanjeev Kumar and seconded by Rev. John J. Kamaraj.

Resolution was **passed unanimously**.

R63. As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for BSc Data Science as presented on page DSC 2 to DSC 4 and the syllabi for semesters for as presented on page DSC 9 to DSC 28 with effect from the academic year 2020-2021.

Resolution was moved by Dr. A. John Sanjeev Kumar and seconded by Rev. John J. Kamaraj.

Resolution was **passed unanimously**.

R64. As recommended by the Board of Studies in Microbiology, RESOLVED to approve the Value Added Courses for BSc Microbiology as presented on page MIC 3 and the syllabi for semesters for I to VI as presented on pages from MIC 28 to MIC 39 with effect from the academic year 2020-2021.

Resolution was moved by Mr. M. Andrew Pradeep and seconded by Dr. A. Joseph Thatheyus.

Resolution was **passed unanimously**.

R65. As recommended by the Board of Studies in Microbiology, RESOLVED to accept the changes in the programme of studies for BSc Microbiology presented on pages from MIC 1 to MIC 3 and the syllabi for semesters I & II as presented on pages from MIC 6 to MIC 27 with effect from the academic year 2020-2021.

Resolution was moved by Mr. M. Andrew Pradeep and seconded by Dr. A. Joseph Thatheyus.

Resolution was **passed unanimously**.

R66. As recommended by the Board of Studies in Biochemistry, RESOLVED to approve the Value Added Courses for BSc Biochemistry as presented on page BCH 3 and the syllabi for semesters for I, III and V as presented on pages from BCH 33 to BCH 38 with effect from the academic year 2020-2021.

Resolution was moved by Mr. C. Caleb Johnson and seconded by Dr. J. Frank Reuban.

Resolution was **passed unanimously**.

R67. As recommended by the Board of Studies in Biochemistry, RESOLVED to accept the changes in the programme of studies for BSc Biochemistry presented on pages from

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

BCH 1 to BCH 3 and the syllabi for semesters I & II as presented on pages from BCH 7 to BCH 32 with effect from the academic year 2020-2021.

Resolution was moved by Mr. C. Caleb Johnson and seconded by Dr. J. Frank Reuban.

Resolution was **passed unanimously**.

R68. As recommended by the Board of Studies in Biochemistry, RESOLVED to approve the Certificate Courses in Biochemistry as presented on pages from BCH 39 and the syllabi for the certificate courses as presented on pages from BCH 40 to BCH 43 with effect from the academic year 2020-2021.

Resolution was moved by Mr. C. Caleb Johnson and seconded by Dr. J. Frank Reuban.

Resolution was **passed unanimously**.

R69. As recommended by the Board of Studies in Business Administration, RESOLVED to approve the Value Added Courses for BBA as presented on page BBA 1 and the syllabi for semesters for I, III and V as presented on pages from BBA 1 to BBA 6 with effect from the academic year 2020-2021.

Resolution was moved by Dr. P.E.F. Divakaran and seconded by Dr. R. Albert Christopher Dhas.

Resolution was **passed unanimously**.

R70. As recommended by the Board of Studies in Psychology, RESOLVED to approve the Value Added Courses for BSc Psychology as presented on page PSY 3 and the syllabi for semesters for I to VI as presented on pages from PSY 20 to PSY 25 with effect from the academic year 2020-2021.

Resolution was moved by Dr. M. Suresh Kumar and seconded by Dr. T. Augustus Julian Lazmey

Resolution was **passed unanimously**.

R71. As recommended by the Board of Studies in Psychology, RESOLVED to accept the changes in the programme of studies for BSc Psychology presented on pages from PSY 1 to PSY 3 and the syllabi for semester I as presented on pages from PSY 8 to PSY 19 with effect from the academic year 2020-2021.

Resolution was moved by Dr. M. Suresh Kumar and seconded by Dr. T. Augustus Julian Lazmey

Resolution was **passed unanimously**.

R72. As recommended by the Board of Studies in Visual Communication, RESOLVED to approve the Value Added Courses for BSc Visual Communication as presented on page BVC 3 and the syllabi for semesters for I to VI as presented on pages from BVC 21 to

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

BVC 31 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Shylaja and seconded by Ms. Shanmuga Mohana.

Resolution was **passed unanimously**.

R73. As recommended by the Board of Studies in Visual Communication, RESOLVED to accept the changes in the programme of studies for BSc Visual Communication as presented on pages from BVC 1 to BVC 2 and the syllabi for semesters I and II as presented on pages from BVC 4 to BVC 20 with effect from the academic year 2020-2021.

Resolution was moved by Dr. T. Shylaja and seconded by Ms. Shanmuga Mohana.

Resolution was **passed unanimously**.

R74. As recommended by the Board of Studies in Food Science & Nutrition, RESOLVED to approve the Value Added Courses for BSc Food Science & Nutrition as presented on page FSN 3 and the syllabi for semesters for I, III and V as presented on pages from FSN 19 to FSN 21 with effect from the academic year 2020-2021.

Resolution was moved by Dr. K. Nithya and seconded by Dr. M. Suresh Kumar.

Resolution was **passed unanimously**.

R75. As recommended by the Board of Studies in Food Science and Nutrition, RESOLVED to accept the changes in the programme of studies for BSc Food Science and Nutrition presented on pages from FSN 1 to FSN 3 and the syllabi for the programme as presented on pages from FSN 10 to FSN 18 with effect from the academic year 2020-2021.
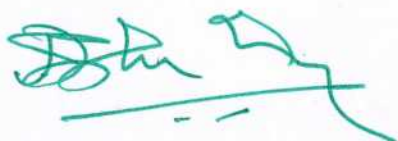
Resolution was moved by Dr. K. Nithya and seconded by Dr. M. Suresh Kumar.

Resolution was **passed unanimously**.

Observations/Comments/Suggestions from the External Members

1. **Dr. A. Wilson Aruni**, Pro-Vice Chancellor, Sathyabama Institute of Science & Technology, Chennai

    i. The size of the Council is very huge but it fits the legacy of the College.

    ii. It is appreciable that the college follows a four-tier system of discussions and deliberations of proposals before they are taken up in the Council for approval or ratification.

    iii. Decisions arrived at these four levels are more important than the approval given by the Academic Council since the Academic Council is only a ratifying body where each and every resolution cannot be scrutinized in detail for want of time and the enormity of the work involved. Lower bodies like the

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

departments, Board of Studies, Senatus, and the Faculty floor enjoy the necessary credibility and confidence of the Academic Council.

iv. It is worthy of the great legacy college like the American College to offer Outcome Based Education (OBE) and Value Added Courses.

2. **Dr. J. Vijayadurai**, former Director of DDE, Professor of Management Studies, Madurai Kamaraj University.

i. He appreciated the excellent manner and hassle-free conduct of online meeting of the Academic Council.

ii. Value added courses are very important and they provide opportunities to enhance their employment potentials. Moreover, it is heartening to learn that the college is providing opportunities to those admitted from June 2018 to study value added courses.

3. **Dr. J. Daniel Chellapa**, Senior Scientist, Technical Coordination Wing (BARC-NRB), Chennai

i. A lot of effort and work has gone into this mammoth exercise and Appemdix AP has crossed 1000 pages. It is appreciable and he offered congratulations to the college administration under the dynamic leadership of Dr. M. Davamani Christober.

ii. He suggested that the college joined the Research and Development Institutes and Industries.

iii. He also suggested that the college explored the possibilities to sign an MOU with the Mega Food Park that is being established at Krishnagiri with the support of BARC.

iv. A separate session can be organised to discuss the matters related to tie-ups.

v. The college should also join the Green Campus initiative of the MHRD and establish a Green Office which would carry out a Green Audit of our curriculum and institutional management practices, such as energy, water, waste, construction projects, natural resource (forest, water etc.) and biodiversity conservation.

4. **Dr. Rajesh Alphonse**, Proprietor of Santhosh Metal Corporation, Chennai

i. He suggested that a blended approach to classroom be explored even after the college reopens. Students should be offered both online learning and offline campus learning experiences.

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

ii.   Shift system can be explored to ensure the safety of students until the pandemic is over with the development and administration of the vaccine.

5. **Mr. M.E. Ilango**, Advocate, Madras High Court at Madurai.

    i.   In response to observations made by Mr. S. Stephen, he suggested that the phrase 'retroactive' be used instead of 'retrospective' to avoid confusion in the special resolution 1.

    ii.   He responded to Dr Arul Arasu Israel of RPS department that he should have carried out the direction given by the Chairman of the College Senatus which is a statutory body under the College Constitution.

    iii.   It is not proper to raise the issue of settled matter of the Senatus in the Academic Council.

6. **Dr. M. Lellis Thivagar**, Member Syndicate and Professor & Head & Chairperson, School of Mathematics, Madurai Kamaraj University.

    i.   He placed on record his appreciation for the smooth conduct of online meeting without any technical snag. He congratulated the Principal for conducting the whole meeting in a professional and democratic way.

    ii.   He suggested that a pre-academic council be conducted so that all local issues and doubts can be clarified.

7. **Dr. Hani Babu Vincent**, a distinguished alumnus & Proprietor of Hana Medical Supplies LLC, Dubai and Scientific Chemical Technologies Inc, USA

    i.   He commended the manner in which the college is glowing and growing with lots of vibrant activities.

    ii.   He suggested that more employment oriented courses be offered.

    iii.   He also suggested that the departments of Physics, Chemistry and Biology explore Nano-Science as part of their curricula.

    iv.   Emerging areas like Digital Forensic and Cyber Security can be explored in the college.

    v.   More internship-embedded courses of study should be tried and campus interviews should be expanded.

Vote of Thanks

Dr. D. Lourdu Immaculate, Additional Dean for Academic Policies & Administration proposed a vote of thanks. First, she thanked God the Almighty for giving good health and enough strength to all our faculty members in the preparation of the present meeting of the Academic Council. She expressed her gratitude to Principal and Secretary and the

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Chairperson of the Council for encouraging and lending his continuous support in all our work. She expressed her gratitude to Dr. J. John Sekar, Dean for Academic Policies and Administration for guiding the faculty members in designing the courses especially, Value Added Courses in a successful way. She specially thanked all the external members present for active participation and guidance. She acknowledged that their comments, suggestions, and assessments would always help the college to improve the curriculum.

She thanked the Vice Principal, Bursar, Controller of Examinations and the Chairpersons of various Board of Studies and each and every faculty member for their cooperation and contribution. Without their effort this mammoth exercise would have not been a possibility. She expressed her gratitude to Dr. M. Ravia Shabnam, Head of the Department of Information Technology, Mr. Martin Porous of Computer Science, Mr. J. P. Edward John and Mr. A. Ravikumaran of Principal's Office for their support in the complete preparation of this Academic Council document.

Adjournment of the Meeting

As there was no other item on the agenda, the Chair adjourned the meeting sine die.

Dr. J. JOHN SEKAR
Dean, Academic Policies & Administration
Dr. J. JOHN SEKAR
M.A.,M.Phil.,PGDTE(CIEFL), PGDHE(IGNOU), PGDCE(UH), Ph.D.,
Head & Associate Professor
Research Department of English
Dean. Academic Policies & Administration
The American College, Madurai-625 002

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

CONTENTS

RESOLUTIONS
SPECIAL RESOLUTIONS

SR1: As recommended by the Senatus, it is resolved to relax 75% of class attendance requirement to 50% for all high achievers in UG & PG to appear for End-of-Semester examinations with a condition that they should spend 25% of class time in any one of the libraries in the college for independent and interdisciplinary learning, and to maintain a separate register at UG library, PG library, DPM Library, SCILET Library.

SR2: As recommended by the Senatus, it is resolved to exempt high achievers in postgraduate programmes from taking assignments in Semesters II, III, and IV and to permit them to write one independent research paper/term paper worthy of publication under the supervision of one teacher who is teaching postgraduate courses, and to add the marks awarded out of 20 by the teacher for the purpose of assignments in all courses offered in the semester concerned.

SR3: As recommended by the Senatus, it is resolved to use High achievers in the postgraduate programmes as student-tutors for remedial teaching to slow-learners in UG, and to recognize the service rendered by student-tutors with a certificate issued under the college emblem signed by the Principal.

SR4: As recommended by the Senatus, it is resolved to use high achievers from II Year PG programmes for teaching in community college courses where ever possible, and to recognize their service with a certificate issued under the college emblem signed by the principal.

SR5: As recommended by the Senatus, it is resolved to allow the final year UG & PG high achievers to undertake internships during the period starting from the first working day of the even semester to the last day of the X'MAS holidays.

SR6: As recommended by the Senatus, it is resolved to organize thirty hour, course-wise remedial programmes at the rate of two hours per week outside the regular class hours for the academically weak students/slow learners on the basis of students' performance in the first semester.

SR7: As recommended by the Senatus, it is resolved to organize remedial programmes at the start of the second semester with both PG achievers and 3rd year UG achievers as student-tutors, and to recognize student-tutors with certificates issued under the college emblem signed by the principal.

SR8: As recommended by the Senatus, it is resolved to exempt high achievers in the final semester of UG programmes except those who are part of DBT-STAR Scheme from assignments to undertake group project, to award 20 marks to Group project, and to add marks scored in the group project for assignments in all courses offered in the fifth semester.

SR9: As recommended by the Senatus, it is resolved to remit two hours of teaching work per week from 16 hour workload to 14 hours per week for all recognized guides who are actively guiding PhD scholars.

SR10: As recommended by the Senatus, it is resolved that all research departments host an annual research convention on research methodology and emergent areas in the discipline for research scholars and postgraduate students of the departments.

SR11: As recommended by the Senatus, it is resolved that all research departments start international, peer reviewed research journals with ISSN with a view to providing platform for research scholars and practicing teachers to share their research findings with the international community of scholars.

SR12: As recommended by the Senatus, it is resolved that all postgraduate departments shall organize annually one national or international workshop on research methodology and Intellectual Property Right (IPR).

SR13: As recommended by the Senatus, it is resolved that all student and faculty articles, all PG Projects, MPhil theses, and PhD dissertations shall be plagiarism-checked on the UGC recommended software URKUND at the Plagiarism Consultancy Centre of the College before submission for publication and for adjudication.

POSTGRADUATE DEPARTMENTS

R14: As recommended by the Board of Studies in Tamil, RESOLVED to approve the Value Added Courses for MA Tamil as presented on page PGT1 and the syllabi for the courses for semesters II & IV as presented on pages from PGT2 to PGT5 with effect from the academic year 2020-2021.

R15: As recommended by the Board of Studies in English, RESOLVED to approve the changes in the programme of studies for MA English as presented on pages from PGE 1 and the syllabi for the programme for semesters III & IV as presented on pages from PGE 6 to PGE 31 with effect from the academic year 2020-21.

R16.: As recommended by the Board of Studies in English, RESOLVED to approve the Value Added Courses for MA English as presented on page PGE 1 and the syllabi for the courses for semesters II & IV as presented on pages from PGE 32 to PGE 35 with effect from the academic year 2020-2021.

R17: As recommended by the Board of Studies in English, RESOLVED to approve the course PGE5483 Communication Skills for Data Science for M.Sc Data Science as presented on page PGE 1 and the syllabus for the course as presented on pages from PGE 35 to PGE 37 with effect from the academic year 2020-2021.

R18: As recommended by the Board of Studies in Mathematics, RESOLVED to approve the Value Added Courses for M.Sc Mathematics as presented on page PGM 1 and the syllabi for the courses for semesters I,II, III & IV as presented on pages from PGM 2 to PGM 7 with effect from the academic year 2020-2021.

R19: As recommended by the Board of Studies in Physics, RESOLVED to accept the panel of examiners for the End of Semester Examinations.

R20: As recommended by the Board of Studies in Botany, RESOLVED to approve the Value Added Courses for M.Sc Botany as presented on page PGB 1 and the syllabi for the

courses for semesters II & IV as presented on pages from PGB 2 to PGB 5 with effect from the academic year 2020-2021.

R21: As recommended by the Board of Studies in Economics, RESOLVED to approve the Value Added Courses for MA Economics as presented on page PEC 1 and the syllabi for the coursesfor semesters II & IV as presented on pages from PEC 2 to PEC 5 with effect from the academic year 2020-2021.

R22.:As recommended by the Board of Studies in Commerce, RESOLVED to approve the Value Added Courses for M.Com as presented on page PCO 1 and the syllabi for the coursesfor semesters II & IV as presented on pages from PCO 2 to PCO 5 with effect from the academic year 2020-2021.

R23.:As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for MCA as presented on page MCA 1 and the syllabi for the courses for semesters II & IV as presented on pages from MCA 2 to MCA 5 with effect from the academic year 2020-2021.

R24.:As recommended by the Board of Studies in Computer Science, RESOLVED to accept the courses for M.Sc Data Science as presented on page PDS 1 and the syllabi for the courses for semester III as presented on pages from PDS 7 to PDS 14 with effect from the academic year 2020-2021.

R25.:As recommended by the Board of Studies in Computer Science, RESOLVED to approve the Value Added Courses for M.Sc Data Science as presented on page PDS 2 and the syllabi for the courses for semesters II & IV as presented on pages from PDS 15 to PDS 18 with effect from the academic year 2020-2021.

R26.:As recommended by the Board of Studies in Business Administration, RESOLVED to accept the changes in courses of MBA 4221 and MBA 4222 in the programme of studies as presented on pages from MBA 1 to MBA 4 with effect from the academic year 2020-2021.

R27.:As recommended by the Board of Studies in MBA, RESOLVED to approve the Value Added Courses for MBA as presented on page MBA 5 and the syllabi for the courses for semesters II as presented on pages from MBA 6 to MBA 7 with effect from the academic year 2020-2021.

R28: As recommended by the Board of Studies in Social Work, RESOLVED to approve the changes in the programme of studies for MA Social Work as presented on pages from MSW 1 to MSW 2 and the syllabi for the programme for semesters III & IV as presented on pages from MSW 3 to MSW 58 with effect from the academic year 2020-21.

R29.:As recommended by the Board of Studies in Social Work, RESOLVED to approve the Value Added Courses for Social Work as presented on page MSW 2 and the syllabi for the coursesfor semesters II & IV as presented on pages from MSW 59 to MSW 62 with effect from the academic year 2020-2021.

R30: As recommended by the Board of Studies in Food Science and Nutrition, RESOLVED to accept the changes in the programme of studies for M.Sc., Food Science and Nutrition as presented on pages from PFN 1 to PFN 2 and the syllabi for the programme as presented on pages from PFN 3 to PFN 10 with effect from the academic year 2020-21.

R31.:As recommended by the Board of Studies in Food Science & Nutrition, RESOLVED to approve the Value Added Courses for M.Sc Food Science and Nutrition as presented on page PFN 2 and the syllabi for the coursesfor semesters II & IV as presented on pages from PFN 11 to PFN 14 with effect from the academic year 2020-2021.

UNDERGRADUATE DEPARTMENT

R32: As recommended by the Board of Studies in Tamil, RESOLVED to approve the Value Added Courses for BA Tamil as presented on page TAM 1 and the syllabi for the coursesfor semesters II, IV & VI as presented on pages from TAM 2 to TAM 4 with effect from the academic year 2020-2021.

R33: As recommended by the Board of Studies in Hindi, RESOLVED to approve the Value Added Courses for BA Hindi as presented on page HIS 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from HIS 2 to HIS 4 with effect from the academic year 2020-2021.

R34: As recommended by the Board of Studies in Hindi, RESOLVED to accept the panel of examiners for the End of Semester Examinations.

R35: As recommended by the Board of Studies in French, RESOLVED to accept the panel of examiners for the End of Semester Examinations.

R36: As recommended by the Board of Studies in English, RESOLVED to accept the changes in the programme of studies for BA English as presented on pages from ENG 1 to ENG 3 and the syllabi for semesters III and IV as presented on pages from ENG 7 to ENG 23 with effect from the academic year 2020-2021.

R37:As recommended by the Board of Studies in English, RESOLVED to approve the Value Added Courses for BA English as presented on page ENG 3 and the syllabi for the courses for semesters II, IV & VI as presented on pages from ENG 24 to ENG 26 with effect from the academic year 2020-2021.

R38: As recommended by the Board of Studies in Mathematics, RESOLVED to approve the course MAT 2483 and MAT 2484 for B.Sc Data Science as presented on page MAT1 and the syllabi for the courses as presented on pages from MAT 2 to MAT 5 with effect from the academic year 2020-2021.

R39: As recommended by the Board of Studies in Mathematics, RESOLVED to approve the Value Added Courses for B.Sc Mathematics as presented on page MAT 1 and the syllabi for the courses for semesters I, II, III, IV & VI as presented on pages from MAT 6 to MAT 13 with effect from the academic year 2020-2021.

R40: As recommended by the Board of Studies in Chemistry, RESOLVED to approve the change in the programme of studies for B.Sc Chemistry by replacing CHE 3614 with CHE 3618 as presented on pages from CHE 1 to CHE 2 with effect from the academic year 2020-2021.

R41: As recommended by the Board of Studies in Botany, RESOLVED to accept the changes in the programme of studies for BSc Botany as presented on pages from BOT 1 to BOT 3 and the syllabi for semesters III and IV as presented on pages from BOT 4 to BOT 25 with effect from the academic year 2020-2021.

R42::As recommended by the Board of Studies in Botany, RESOLVED to approve the rubrices for evaluation of the Project BOT 3558 as presented on pages from BOT 26 to BOT 27 with effect from the academic year 2020 – 2021.

R43: As recommended by the Board of Studies in Botany, RESOLVED to approve the Value Added Courses for B.Sc Botany as presented on page BOT 3 and the syllabi for the courses for semesters IV & VI as presented on pages from BOT 28 to BOT 31 with effect from the academic year 2020-2021.

R44: As recommended by the Board of Studies in Economics, REOLVED to approve the Value Added Courses for BA Economics as presented on page ECO 1 and the syllabi for the courses for semesters II, IV &VI as presented on pages from ECO 2 to ECO 13 with effect from the academic year 2020-2021.

R45: As recommended by the Board of Studies in Commerce, REOLVED to approve the Value Added Courses for B.Com as presented on page COM 1 and the syllabi for the courses for semesters II, IV &VI as presented on pages from COM 2 to COM 7 with effect from the academic year 2020-2021.

R46: As recommended by the Board of Studies in Religion, Philosophy and Sociology, REOLVED to approve the Value Added Courses for Religion, Philosophy and Sociology as presented on page RPS 1 and the syllabi for the courses for semesters I, II, IV &VI as presented on pages from RPS 2 to RPS 9 with effect from the academic year 2020-2021.

R47: As recommended by the Board of Studies in Computer Science, REOLVED to approve the Value Added Courses for Computer Science as presented on page COS 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from COS 2 to COS 7 with effect from the academic year 2020-2021.

R48: As recommended by the Board of Studies in Computer Science, REOLVED to approve the Value Added Courses for BCA as presented on page BCA 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from BCA 2 to BCA 7 with effect from the academic year 2020-2021.

R49::As recommended by the Board of Studies in Computer Science, RESOLVED to approve the syllabi for the courses BIT 2412, BIT 3211 in the programme of studies as presented on pages from BIT 1 to BIT 4 with effect from the academic year 2020-2021.

R50: As recommended by the Board of Studies in Computer Science, REOLVED to approve the Value Added Courses for Information Technology as presented on page BIT 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from BIT 6 to BIT 11 with effect from the academic year 2020-2021.

R51: As recommended by the Board of Studies in Computer Science, RESOLVED to accept the courses in the programme of studies in B.Sc Data Science as presented on pages from DSC 1 to DSC 3 and the syllabi for semesters III and IV as presented on pages from DSC 8 to DSC 21 with effect from the academic year 2020-2021.

R52: As recommended by the Board of Studies in Computer Science, REOLVED to approve the Value Added Courses for Data Science as presented on page DSC 3 and the syllabi for the courses for semesters II, IV & VI as presented on pages from DSC 22 to DSC 27 with effect from the academic year 2020-2021.

R53: As recommended by the Board of Studies in Business Administration, REOLVED to approve the Value Added Courses for Business Administration as presented on page BBA 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from BBA 2 to BBA 7 with effect from the academic year 2020-2021.

R54: As recommended by the Board of Studies in Biochemistry, RESOLVED to accept the changes in the programme of studies for B.Sc Biochemistry presented on pages from BCH 1 to BCH 4 and the syllabi for semesters III & IV as presented on pages from BCH 9 to BCH26 with effect from the academic year 2020-2021.

R55: As recommended by the Board of Studies in Biochemistry, REOLVED to approve the Value Added Courses for Biochemistry as presented on page BCH 4 and the syllabi for the courses for semesters II, IV & VI as presented on pages from BCH 27 to BCH 32 with effect from the academic year 2020-2021.

R56: As recommended by the Board of Studies in Physical Education, REOLVED to approve the Value Added Courses for Physical Education as presented on page BPE1 and the syllabi for the courses for semesters IV & VI as presented on pages from BPE 2 to BPE 5 with effect from the academic year 2020-2021.

R57: As recommended by the Board of Studies in Food Science & Nutrition, REOLVED to approve the Value Added Courses for B.Sc Food Science & Nutrition as presented on page FSN 1 and the syllabi for the courses for semesters II, IV & VI as presented on pages from FSN 2 to FSN 7 with effect from the academic year 2020-2021.

R58: As recommended by the Board of Studies in Psychology, RESOLVED to accept the changes in the programme of studies for BSc Psychology presented on pages from PSY 1 to PSY 3 and the syllabi for semester II as presented on pages from PSY 7 to PSY 20 with effect from the academic year 2020-2021.

Concept Note on Advanced Learners/High Achievers

Indian tertiary classroom is a miniature of Indian society in the sense that it is diverse in many different ways. Heterogeneity is the norm rather than the exception. At the macro level, students with different socio-economic, cultural, linguistic, and educational backgrounds congregate in classroom. At the micro level also, they differ from each other in terms of affective, cognitive and psychomotor domains. These domains are heavily influenced by the macro level differences. Hence, interpersonal differences are an inevitable reality and higher educational institutions are expected to address these differences and not to avoid them.

While interpersonal differences can be addressed by faculty mentors during periodical interaction with the assigned mentees, institutions can categorize all students of a class into two broad divisions out of contingency and convenience. In other words, some of them are quick at grasping lectures, fast at reading, and fluence in writing while other others are slow at grasping, reading and writing. Majority of students are average achievers and they can manage their own learning. Teachers in classes need to make a fine balance in their approach and delivery mechanism to cater to the needs of slow learners and to the challenges of advanced learners.

Advanced learners are capable of independent learning outside the class what they are supposed to learn inside the class. While the presence of such advanced learners are an advantage to slow learners as far as peer learning is concerned, they feel unproductive and unchallenging listening to lectures on topics which they themselves can acquire. If this reality is allowed to go unnoticed, it snowballs into classroom managerial issues to teachers. Advanced learners/high achievers demand proper recognition and suitable tasks. They have potentials that can be harvested in their own interest and to the advantage of slow learners/under-achievers.

Moreover, it is equally important to objectively identify the advanced learners. Advanced learners are students who perform at an advanced academic level when compared with others of same age, experience, and environment. They need to be nurtured and their unique needs must be addressed through accommodations such as differentiation of content, instruction and assessment. Differentiation means providing advanced students with different tasks and activities. It allows them a wider range of creativity, critical thinking, and opportunities for intellectual growth. Differentiation

should be integrated into the regular college day as learning experiences based on the core curriculum.

Departments can decide on the examples of differentiation, such as flexible skills grouping, cluster grouping, learning centres, interest groups, high level questions, and mentoring. Flexible grouping is a method of grouping students for instruction using interest, ability level or other student needs to determine groups. Cluster grouping means that students are grouped within a regular classroom setting and receive differentiated instruction and curriculum from the regular classroom teacher. Curriculum compacting is an instructional strategy that enables students who demonstrates mastery of a skill to omit portions of assigned curriculum, and substitute it with enrichment activities that match their interests, abilities, and needs.

Our working definition of advanced learners is that 10% of the students in a class whose score is next only to the highest score of the class can be considered Advanced learners/High-achievers. Such students usually exhibit exceptional reasoning ability, facility with abstraction, early moral concern, analytical thinking, capacity for reflection, intellectual curiosity, complex thought process, passion for learning, fast learning rate, vivid imagination and powers of concentration. Such students may be identified by certain personality traits such as insightfulness, perfectionism, empathy, tendency toward introversion, nonconformity, perseverance and questioning of rule or authority.

Steps to Follow

1. Heads concerned shall handover the list of advanced learners signed by the principal to the Office of the Vice Principal, Data Centre, libraries, and the COE.

2. A separate register shall be kept at UG Department library, PG Department Library, DPM Library, and SCILET Library.

3. Based on the performance of PG students in the first semester, a computer generated list of 10% top scorers shall be handed over to the heads of all PG departments. If any student comes within 10% in the subsequent semesters, they can also be considered as advanced learners.

4. There shall be ONLY one independent research paper/term paper per semester worthy of publication. Each advanced learner shall have a faculty adviser who is handling PG classes. No faculty shall be assigned more than two advanced learners.

5. Assessment of their work can be done at two phases corresponding to two test cycles. Assessment for each cycle is for 10 marks in lieu of assignment. Marks awarded out of 10 at each phase shall be added to all courses. It is the responsibility of the faculty supervisor to inform the teachers of other courses marks awarded to the advanced learners under their guidance.

6. Marks should not be lower than the marks scored by others in the class. Since they are advanced learners, the marks awarded out of 10 shall be in the range of 8 to 10.

7. The principal at his discretion will assign student-tutorship on the recommendations of the PG Heads to advanced learners for remedial teaching organized for slow learners in undergraduate departments.

8. A Print Certificate under the college emblem shall be issued to student-tutors signed by the Principal.

9. The principal at his discretion will assign teaching assignment to PG advanced learners in community college courses on the recommendation of the PG Heads and on the requirement of the community college students.

10. A Print Certificate under the college emblem shall be issued to PG advanced learners who are involved in teaching community college classes signed by the Principal.

11. Departments concerned can guide UG and PG advanced learners on identifying the feasible industries, labs, educational institutions, business establishments, NGOs and other such institutions for internship from the start of the even semester in the final year up to the last day of the Xmas vacation.

12. Departments can compile the list of institutions which are ready to provide internships and get them approved by the Board of Studies and by the Academic Council.

Concept Note on Slow Learners/Underachievers

Slow learners are usually those students who have an intelligent quotient (IQ) below average. Their learning abilities develop at a much slower rate than other students of their age. In other words, such slow learners have low ability. In the literature, such students are said to possess IQ between 70 and 85. They tend to learn slower and are unable to retain what they learn. They also have a very short attention span in classes. They are unable to apply certain learning or concept in different situations without help. They require concrete teaching and cannot manage with abstract teaching. Hence, most of them are underachievers.

Slow learners also have social issues. Their social behavioural pattern is mostly immature and unstable. They lack judgment and they become aggressive about ordinary issues. They are self-conscious and tend to daydream and to spend time in solitude. Academically, they find it difficult to identify sounds and therefore they provide irrelevant answers when a question is asked. They find it hard to write. They find it hard to express themselves verbally and cannot articulate easily. They cannot fully make teachers understand what they intend to convey.

However, slow learning is not a learning disability. Hence, teachers as part of learning community should help slow learners meet challenges and overcome learning issues. Teachers should realize that learning is an essential but complicated process that students pursue throughout their life. They should accept that changes are inevitable in teaching-learning process as well. They cannot afford to promote the traditional one-size-that-fits-all approach in the twenty first century where everything becomes global. Teaching-learning is no exception.

No student is slow or fast, weak or bright by birth. It depends upon the available and affordable learning opportunities. Slow learners cannot adapt to a rigid and fast-paced style of learning. The traditional belief creates a chasm between their true ability and their performance level and it, in turn, leads to their being dubbed as slow learners. They need more time, more repetition, and more resources from teachers to be successful. They do not have intellectual disability, but it takes them longer to understand and grasp concepts and to express themselves.

Regular classroom learning focuses on the acquisition of new knowledge and new skills based on previously learnt concepts. However, slow learners tend to be left behind and require additional scaffolding outside the classroom. When they are left unattended,

they face educational, social, and personal challenges. They also find it difficult to bond with students of their age and sometimes they exclude themselves from extra-curricular and co-curricular activities. Finally, it leads to high level anxiety and negative self-image which act as a barrier to learning.

To facilitate learning for slow learners, advanced learners of UG and PG can act as tutors through peer learning and collaborative learning. Motivation works wonders for slow learners. Peers can motivate them and acknowledge their learning more than teachers. Moreover, teachers should set realistic expectations and smaller targets so that they become achievable for slow learners. They should be taught to learn from their failures and they should be encouraged to explore and learn at their own pace. Peer tutoring is one of the most effective strategies for them. Teachers should give preference to slow learners in the class to express their thoughts.

Hence, the working definition of slow learners/underachievers is that students who are slow to grasp the classroom input on account of low cognition, but are genuinely interested in pursuit of education, students who need motivation from the peers and require additional scaffolding, and students who either score very low marks or fail exams can be considered slow learners.

Steps to Follow

1. It is the responsibility of the UG Heads to organize thirty hour, course-wise remedial programmes, both online and offline, outside the regular class hours.

2. Service departments like English, Math, Chemistry and other departments who offer courses to students of other departments as compulsory components of curriculum [major supportive/ancillary] shall organize remedial programmes at the start of the second semester for slow learners.

3. Heads shall forward their request to the heads of service departments concerned for remedial programme for specific subjects.

4. Faculty members can identify and recommend slow learners to the UG Heads, and/or Heads can seek the computer generated list of the students who have failed the courses in EOS Examinations.

5. Remedial teaching can be extended to students of second and third years wherever there is any demand or need.

6. UG Departments can make use of advanced learners from PG and third year UG as student-tutors for remedial teaching.

7. A Print Certificate under the college emblem shall be issued to UG & PG student-tutors signed by the Principal.

8. Advanced learners in third year UG classes except those classes which are under DBT-STAR Scheme can be exempted from assignments in the final semester and such students can be assigned group projects in lieu of assignments.

9. Such advanced learners can choose their faculty supervisor but the number of advanced learners shall not exceed two for a faculty supervisor.

10. Assessment of their work can be done at two phases corresponding to two test cycles. Assessment for each cycle is for 10 marks in lieu of assignment. Marks awarded out of 10 at each phase shall be added to all courses. It is the responsibility of the faculty supervisor to inform the teachers of other courses of marks awarded to the advanced learners under their guidance.

11. Marks should not be lower than the marks scored by others in the class. Since they are advanced learners, the mark awarded out of 10 shall be in the range can be 8 to 10.

Concept Note on Research Initiatives

It is not uncommon to hear from a section of teaching fraternity that teachers are busy teaching and managing their classrooms and they need not 'waste' their time on doing research or guiding research scholars. Some feel that the primary role of teachers is to teach and that research is secondary. However, teaching and research are complementary to each other. It is academic research that solves many pedagogic problems faced in classrooms and produces new knowledge. A crucial difference between school teaching and college teaching is that while school teachers consume knowledge, college teachers produce knowledge for others to consume. Research in teaching and learning processes [pedagogical research] should be perceived as digging deep into knowledge or existing issues so that teachers can acquire sufficient knowledge and clear understanding of the subject.

Postgraduate degrees or research degrees acquired in-service are insufficient for college teachers to continue their profession though such degrees enable them to start their teaching career. Pedagogic research can help college teachers to interrogate their teaching practices and evaluate learning processes with a greater understanding of its relevance to their careers. Academic research can enable them to produce new knowledge. Their research need not be industry-focussed or industry-intensive. Teachers enhance their research potentials and create awareness in postgraduate students about quality research by setting research problems, exploring the literature, and establishing research questions. They should be versatile both in qualitative and quantitative research.

The idea of teachers doing research is sustainable only when teachers themselves decide to embark on it. Research cannot be thrust upon unwilling or incapable teachers. To start with, all teachers can engage themselves in action research that lasts a few weeks, then move on to research that results in publication. They can do research on research methodology since it is an integral part of curriculum and project. They should be aware of Intellectual Property Right.

Teachers with research credentials can guide budding scholars. They can act as research consultants. Research is something that takes time to learn and so teachers need not be forced or rush into it at full speed. In fact, research is learning by doing. When teachers do research, they learn more. There is always more to learn about the ever expanding field of one's choice. Hence, the process of research opens up new opportunities for learning and growth. Research provides the most recent information

available in the field. Teachers update themselves and such updating prevents them from falling behind. It enables them to generate more news ideas and consequently, changing their mindset on the topic.

Teachers who spend their precious personal quality time on guiding research scholars need to be recognized by some kind of incentive. Cash award cannot be equivalent to the quality time they spare for their research scholars. They are doing yeoman service for the cause of higher education. According to UGC directive, those who would like to become college teaches should have completed research at the entry level from June 2021. Of course, it is quite common in the western academia that only persons with research degrees are eligible for appointment in colleges and universities. According to National Educational Policy that is being implemented at phases, affiliating system will be terminated and all colleges will be made autonomous. Existing autonomous colleges can upgrade themselves into either teaching universities or research universities.

In this context, our faculty-research supervisors should be recognized. Hence, all faculty supervisors who are actively guiding research scholars are given remission of two hours of teaching work per week. This proposal is in consonance with the UGC Regulations 2018 on Minimum Standards and Qualifications for Appointments in Colleges and Universities 15.2 page 51. The college already has created a system wherein it makes the budgetary allocation of Rs.50000/ for the conduct of international conference annually by individual departments, and reimburses faculty members their registration fees of international conferences outside the country if they present research articles. Cash incentives are also awarded for those faculty members who are publishing research articles in journals included in the CARE List of the UGC and journals indexed in data banks like SCOPUS.

Since teaching and research complement each other at the post-tertiary level, research departments can start international peer reviewed journals to provide space for teaching fraternity in the region and research scholars in the departments to share their research findings with international community. It is imperative for them to periodically, preferably annually, organize national or international workshops on research methodology and Intellectual Property Right (IPR) and to hold annual research conventions. To ensure research ethics, all articles and theses should be plagiarism-checked on the UGC recommended software URKUND installed at the college library.

Steps to Follow

1. All research guides who are actively guiding PhD research scholars are entitled to the reduction of two hours of teaching from their total 16 hours per week.

2. Heads of Research Departments shall reduce the teaching overload by two hours for such faculty research guides who are actively guiding research scholars.

3. A copy of the university approval of guideship and the list of PhD scholars with their registration orders from the University shall be handed over to the Office of the Dean of Curriculum Development and Research through the Head and the Principal.

4. Faculty supervisors shall handover the syndicate approval and/or degree awarded to their scholars to the Dean of Curriculum Development and Research.

5. It is the responsibility of the research supervisor to handover a copy of the university approved Research Advisory Committee (RAC) to the Dean of CD&R through the Principal.

6. It is the responsibility of research supervisors to monitor the payment of research fees to the college annually.

7. It is the responsibility of research supervisors to collect the necessary information from their scholars and pass on to the Office of the Principal for the generation of institutional ids for them and for the creation of google classroom for regular supervision and guidance.

8. Attendance of such online meetings and interaction sessions shall be maintained by the respective faculty supervisors for the official documentation purposes like NAAC and NIRF.

9. The Timetable Committee of the College can decide on the day for annual research convention and it can be indicated in the college calendar.

10. It is the responsibility of Heads of Research Departments to organize annual research convention in their departments on the common date indicated in the college calendar.

11. Heads of Research departments shall take initiatives to start international, peer-reviewed Journal with ISSN at the earliest, preferably before the end of the academic 2020-2021.

12. Heads of all PG departments shall organize at least one national or international workshop on research methodology and Intellectual Property Right (IPR).

13. Heads of Research and Heads of Postgraduate Departments shall incorporate into their curriculum the mandatory requirement of subjecting research articles, PG & UG Projects, MPhil & PhD theses to plagiarism checker with the help of URKUND installed at the Plagiarism Consultancy Centre before submission.

14. A copy of the report shall be attached to the thesis/project report.

Assumptions

All Special Resolutions are based on the following hypotheses:

1. Advanced learners/High-achievers can mentor slow learners/underachievers since students learning from fellow students create less anxiety and more relaxed state of the mind.

2. Advanced learners/High-achievers require special recognition and more challenging tasks than mere passive listening in classes.

3. Faculty with research credentials and active involvement and engagement in guiding research scholars deserve incentives.

4. The strength of a higher educational institution like The American College is its research output and knowledge creation & dissemination because the present day world is guided by knowledge economy.

POSTGRADUATE DEPARTMENT OF TAMIL

Value Added Courses

w.e.f. 2020-2021

SEM	COURSE CODE	COURSE TITLE	Hrs/Wk	Cr.
II	PGT 422V	தமிழ் அகராதிக் கலை	2	2
IV	PGT 522V	சங்ககாலப் பழமரபுக் கதைகளும் தொன்மங்களும்	2	2

PGT 422V   தமிழ் அகராதிக் கலை   **2 Hrs/ 2 Cr.**

நோக்கம்

தமிழ்மொழியில் காலந்தோறும் பிறந்தும் மறைந்தும் பொருள் மாறுபட்டும் திரிந்துவருகிறசொற்களைஅறிந்துஅவற்றிற்கானபொருளைஅறிந்துபயன்படுத்தஉதவும் அகராதிகலையையும் வரலாற்றையும் அறிந்துகொள்வது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்கள்

1. அகராதிபற்றியதெளிவானசிந்தனைத் திறனைப் பெற்றிருப்பர்.

2. தமிழ்ச் சொற்கள் பொருள்களைஅறிந்துகொள்வதற்குநிகண்டுகள் பயன்பட்ட விதத்தைஅறிந்திருப்பர்.

3. புதியகலைச்சொற்கள் உருவாக்கவேண்டியதேவையைஉணர்ந்திருப்பர்.

4. தற்காலதமிழ்ச் சொல்லகராதிபற்றியவரையறைகளைபுரிந்திருப்பர்.

5. புதியகலைச் சொல்லாக்கத்தின் பொழுதுகவனிக்கப்படவேண்டிய கூறுகள் அல்லதுவழிமுறைகள் மற்றும் உத்திகளைஅறிந்திருப்பர்.

கூறு : 1 –அகராதி : விளக்கமும் வகைகளும் - தொல்காப்பரியஉரியியல் - மரபியல்
                                                                        (6 மணி)
கூறு : 2–நிகண்டுகள் : விளக்கமும் வகைகளும் - திவாகரம் - பிங்கலம் - சூடாமணி
                      நிகண்டுகள்   (6 மணி)

கூறு : 3–அகராதிஉருவாக்கம் : வீரமாமுனிவரின் சதுரகராதி–பெப்ரிசியஸ்,
              வின்ஸ்லோ,ராட்லர்,மானிப்பாய் அகராதிகள்.   (6 மணி)

கூறு : 4– இருபதாம் நூற்றாண்டு : கதிரைவேற்பிள்ளைதமிழ்ப் பேரகராதி–அபிதான
              சிந்தாமணி - மதுரைதமிழ்ப் பேரகராதி–தமிழ் லெக்ஸிகன் - ச.பவானந்தம்
              பிள்ளையின் தற்காலதமிழ்ச் சொல்லகராதி–க்ரியாவின் தமிழ் அகராதி
                                                                        (6 மணி)

கூறு : 5–வட்டாரதமிழ்ச் சொல்லகராதிகள் : கி.ரா.வின் கரிசல் வட்டாரஅகராதி–
              நாஞ்சில் நாடனின் நாஞ்சில் நாட்டுஅகராதி–கொங்குவட்டாரஅகராதி–
              நடுநாட்டுஅகராதி–மலேசியச் செந்தமிழ் அகராதி(ஜி.பி.லாசரஸ்)   (6 மணி)

பாட நூல்கள் :

1. தமிழ் அகராதிக்கலை,பேராசுந்தரசண்முகனார்,சந்தியாபதிப்பகம்,சென்னை, 2014.

பார்வை நூல்கள் :

1. பி.ஆர்.இராமநாதன், இருபதாம் நூற்றாண்டுத் தமிழ் அகராதி,சென்னைப் பல்கலைக்கழகம், 1909.

2. ச.பவானந்தம் பிள்ளை,தற்காலத் தமிழ்ச் சொல் அகராதி,மாக்மில்லன் வெளியீடு,சென்னை, 1925.

3. தமிழ்லெக்சிகன் அகராதி,சென்னைபல்கலைக்கழகம், 1939.

4. பெருமாள் முருகன்,கொங்குவட்டாரஅகராதி,குருத்துவெளியீடு,சென்னை, 1982.

5. அகராதியியல்,பெ.மாதையன்,தமிழ்ப் பல்கலைக்கழகம், 1997.

6. அ.கா.பெருமாள்,நாஞ்சில் நாட்டுவட்டாரவழக்குச் சொல்லகராதி,தமிழினி, சென்னை, 2004.

7..கண்மணிகுணசேகரன்,நடுநாட்டுஅகராதி,தமிழினி,சென்னை, 2007.

8. கி.ராஜநாராயணன்,வழக்குச் சொல்லகராதி,அன்னம் வெளியீடு, 2008.

9. ஆ.சிங்காரவேலுமுதலியார்,அபிதானசிந்தாமணி,சீதைபதிப்பகம்,திருச்சி, 2010.

10. நா. கதிரைவேற்பிள்ளை,தமிழ் மொழிஅகராதி,சீதைபதிப்பகம்,திருச்சி, 2011.

11. வெள்உவன்,நெல்லைவட்டாரவழக்குச் சொல்லகராதி,தமிழினி,சென்னை, 2012.

12. பொன்னீலன்,தென்குமரிவட்டாரவழக்குகள்,நியூ செஞ்சுரி புக் ஹவுஸ், சென்னை, 2013.

13. வீரமாமுனிவர்,சதுரகராதி,சந்தியாபதிப்பகம்,சென்னை, 2015.

14. பாரா.சுப்பிரமணியம்,க்ரியாவின் தற்காலத் தமிழ் அகராதி,க்ரியாவெளியீடு, சென்னை, 2020.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3	1	2	3			
CO4	1	2	3	4		
CO5	1	2	3	4	5	6

MEAN: 2.5

PGT 522V   சங்ககாலப் பழமரபுக் கதைகளும் தொன்மங்களும்   **2 Hrs/ 2 Cr.**

நோக்கம்:

சங்ககாலக் கவிதைகளில் காணப்படும் முக்கியபழமரபுக் கதைகளையும் தொன்மங்களையும் தனித்தனியே இனங்கண்டுவாசித்துப் பழந்தமிழர்களின் கூட்டுவாழ் அனுபவத்தையும் கற்பனைவளங்களையும் அறிதல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்

1. பழமரபுக் கதைகள்,தொன்மங்கள்,நாட்டார் கதைகள் ஆகியவற்றுக்குக்கிடையேயானவேறுபாடுகளைஅறிந்திருப்பர். சங்கக் கவிதைகளில் இடம்பெறும் தொன்மங்கள்,பழமரபுக் கதைகள் ஆகியவற்றை இனங்கண்டுஅறியும் திறன்பெற்றிருப்பர்.

2. பழந்தமிழகத்தின் வீரஆளுமையுடையோர், இயற்கைமீறியஆற்றல் உடையோர் ஆகியோரைத்தெரிந்துகொண்டிருப்பர். தமிழின் பழங்கவிதைகள் வீரயுகத்தைச் சார்ந்தவைஎன்றுநிறுவும் திறன் பெற்றிருப்பர்

3. பழந்தமிழர்களின் உளப்பாங்கைஅறிந்துகொண்டிருப்பர்.

4. தமிழ்ச் சமூகத்தின் பழமையான கூட்டுக் கற்பனைவளத்தைஅறிந்துகொண்டிருப்பர்.

5. தமிழகத்தில் சமயம் தோன்றியதற்கானஅடிப்படைக் காரணங்களைஅறிந்திருப்பர்.

பாடத்திட்டக் கூறுகள்

1. (6 மணிநேரம்) பழமரபுக் கதைகள் - தொன்மங்கள் - நாட்டார் கதைகள் ஆகியவற்றின் விளக்கங்களும் அவற்றுக்கிடையேயானவேறுபாடுகளும். பழமரபுக் கதைகள் மற்றும் தொன்மங்கள் உலக இலக்கியத்திலும் சங்க இலக்கியத்திலும் பெறும் இடம் குறித்தஆய்வாளர்களின் கருத்துகள்.

2. (6 மணிநேரம்) பழமரபுக் கதைகளின் வகைகளும் தன்மைகளும். சங்ககாலப் பழமரபுக் கதைகள். அரசர் தம் வழிமரபுச் சிறப்பைக் கூறுபவை. வீரமேன்மையினைக் கூறுபவை. கொடைப் பண்பைக் கூறுபவை.

3. (5 மணிநேரம்) கிரேக்கவீரயுகப் பழமரபுக் கதைகளின் தன்மைகளும் சங்ககாலவீரயுகப் பழமரபுக் கதைகளின் தன்மைகளும் - ஒப்பீடும் வேறுபாடும். நீண்டகதைகளாகப் பழமரபுக் கதைகள் சங்கப் பாடல்களில் இடம்பெறாமைக்குக் காரணங்கள். பழமரபுக் கதைகள் நீண்டகதைகளாகமாறியபிற்காலவளர்ச்சி.

4. (6 மணிநேரம்) தொன்மத்தின் வகைகளும் தன்மைகளும். தொன்மக் கட்டமைப்பு. தொன்மங்களின் இயக்கம். தொன்மங்களின் அடித்தளங்கள் (mythical, cosmological,sociological, psychological)ஆகியவை. தொன்மப் பனுவல்களைவாசிக்கும் உத்திகள் குறித்துஆய்வாளர்கள் கருத்து.

5. (7 மணிநேரம்) சங்க இலக்கியத்தில் தொன்மஉைத்திகள். தெய்வத் தொன்மங்கள்,மீவியல் தொன்மங்கள்,வடநாட்டுக் கூறுகள் கலந்ததொன்மங்கள்.

பார்வை நூல்கள்:

1. கைலாசபதி, க.,*தமிழ் வீரயுகக் கவிதை*,குமரன் புத்தக இல்லம்,சென்னை, 2007.

2. பாண்டுரங்கன், அ. *சங்க இலக்கியம்: சமயம்,வழிபாடு,அரசு,சமூகம்.* நியூ செஞ்சுரி புக் ஹவுஸ் (பி) லிட்.,சென்னை,2016.

3. மகாதேவன்,கதிர். *தொன்மம்*,செல்லப்பாதிப்பகம்,மதுரை. 2008.

4. மாதையயன், பெ. *வரலாற்றுநோக்கில் சங்க இலக்கியப் பழமரபுக் கதைகளும் தொன்மங்களும்*,தமிழ்ப் பல்கலைக்கழகம்,தஞ்சாவூர். 2001.

5. வேலுப்பிள்ளை, ஆ. *தமிழிலக்கியத்திலகாலமும் கருத்தும்.* குமரன் புத்தக இல்லம்,சென்னை, 2016.

6. Bhattacharya, Sukumari. *The Indian Theogony: A Comparative Study of Indian Mythology from the Vedas to the Puranas*. MotilalBanarsidass, Delhi, 2016.

7. Campbell, Joseph. *Primitive Mythology: The Masks of God, Volume I*. Penguin, USA, 1991.

8. Campbell, Joseph. *Oriental Mythology: The Masks of God, Volume II*. Penguin, USA, 1991.

9. Armstrong, Karen. *A Short History of Myth*. Canongate Canons, UK, 2018.

10. Kosambi, DamodarDharmanand. *Myth and Reality: Studies in the Formation of Indian Culture Studies in the Formation of Indian Culture*. Sage Publications India Private Limited, New Delhi, 2016.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3	1	2	3			
CO4	1	2	3	4	5	
CO5	1	2	3	4	5	

MEAN:2.5

RESEARCH DEPARTMENT OF ENGLISH

Proposed Grid for M.A. English from June 2020 Batch Onwards

Sem.	Course Code	Course Title	Hours	Credits	Marks
I	PGE 4361	Research in Lang & Lit	5	3	60
	PGE 4463	British Literature I	5	4	80
	PGE 4465	Indian Lit in Trans	5	4	80
	PGE 4467	20th C American Lit	6	4	80
	PGE 4369	Translation Studies	5	3	60
	PGE 4371 CBCS	Eng for Careers	4	3	60
	Total		**30**	**21**	**420**
II	PGE 4462	Mod Lit Theories I	5	4	80
	PGE 4364	British Lit II	5	3	60
	PGE 4466	Structure of Mod Eng	6	4	80
	PGE 4468	Indian Lit in Eng	5	4	80
	PGE 4370	Shakespearean Tragedy	5	3	60
	PGE 4372 CBCS	Film Studies	4	3	60
	Total		**30**	**21**	**420**
III	**PGE 5471**	**Mod Lit Theories II**	**5**	**4**	**80**
	PGE 5473	**British Lit III**	**5**	**4**	**80**
	PGE 5475	**Teaching Eng as II Lang**	**5**	**4**	**80**
	PGE 5477	**Cultural Studies**	**5**	**4**	**80**
	PGE 5479	**African-American Lit**	**5**	**4**	**80**
	PGE 5481	**Asian Lit in English**	**5**	**4**	**80**
	Total		**30**	**24**	**480**
IV	**PGE 5472**	**British Lit IV**	**5**	**4**	**80**
	PGE 5374	**New Lit in English**	**5**	**3**	**60**
	PGE 5476	**History of Englishes**	**5**	**4**	**80**
	PGE 5478	**European Lit in Trans**	**6**	**4**	**80**
	PGE 5480	**African Literature**	**5**	**4**	**80**
	PGE 5382	**Amitav Ghosh**	**4**	**3**	**60**
	PGE 5384	**Mahasweta Devi**			
	PGE 5386	**Toni Morrison**			
	PGE 5388	**J. M. Coetzee**			
	PGE 5266	**Project**	**3**	**2**	**40**
	Total		**30+3**	**24**	**480**
	Grand Total		**120+3**	**90**	**1800**
	Value Added Courses				
I	PGE 421V	Classical Mythology	2	2	-
II	**PGE 422V**	**Indian Folklore**	**2**	**2**	**-**
III	PGE 521V	Greek Tragedy	2	2	-
IV	**PGE 522V**	**Philosophy for Lit**	**2**	**2**	**-**
	Total		**8**	**8**	**-**
	M.Sc. Data Science				
III	**PGE 5483**	**Comm Skills for Data Sc**	**4**	**4**	**80**

Internal and External Evaluation Pattern

General Question Pattern
Section A: Multiple Choice Question – 20 – 20 Marks
Section B: Paragraphs/Annotation – Internal Choice 5 x 7 Marks = 35 Marks
Section C: Essays – Open Choice – 3/5 X 15 Marks = 45 marks
Total = 100 Marks

1. Poetry & Drama
   i) Annotation with three specific questions: (2 + 2 + 1)
   ii) Paragraph
   iii) Essay
2. Prose & Fiction, Linguistics, Survey, Literary Forms & Terms, ELE, Criticism, National Literatures, Creative Writing
   i) Paragraph
   ii) Essay

Internal and External Examiners are expected to set both objective and descriptive questions that test students' knowledge, comprehension, application, analysis, evaluation, and creativity.

Programme Specific Outcomes (PSOs) for MA English

On completion of the programme, postgraduates will be able to

1. approach a wide range of literary texts and critical perspectives in English with an open mind; and contextually locate, critically evaluate, and creatively synthesize large amounts of ideologically conflicting information, concepts and theories;

2. negotiate the social, environmental and global implications of English studies; recognize the ethical implications of reading literary texts; and interpret literary texts within and beyond the theoretical framework offered by various literary-critical theories;

3. diligently identify and objectively assess the relative merits, values and ways of life and cross cutting issues relating to gender, environment, equality and human rights through national and regional literatures;

4. write well-organized and well-developed text-based essays in standard English with clear thesis statement at the discourse level and with the topic sentence together with supportive ideas at the paragraph level;

5. dispassionately evaluate the secondary sources and synthesize them with their original responses to literary texts; and demonstrate their capacity for critical reading of texts;

6. analyze Modern English both synchronically and diachronically; and teach and research on English as a second language;

7. participate as critical and active citizens in society and at work; and pursue career and research in English studies and allied disciplines;

8. document their reading and interpretive practices in assignments, translation works, and independent projects;

9. confidently and effectively articulate their literary and textual experiences; and

10. reorganize a professional and reflective approach to leadership, responsibility, personal integrity, empathy, care and respect for others, accountability and self-regulation.

Mapping of Course Outcomes with Programme Specific Outcomes (PSOs)

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
PGE 4361	✓	✓		✓	✓	✓	✓	✓	✓	
PGE 4463	✓		✓	✓	✓	✓		✓	✓	
PGE 4465	✓	✓	✓	✓			✓	✓	✓	✓
PGE 4467	✓	✓	✓	✓	✓		✓	✓	✓	✓
PGE 4369	✓	✓	✓		✓		✓	✓	✓	✓
PGE 4371		✓		✓	✓	✓	✓	✓	✓	✓
PGE 4462		✓		✓		✓	✓	✓	✓	✓
PGE 4364	✓	✓	✓	✓	✓				✓	✓
PGE 4466	✓	✓	✓	✓	✓		✓	✓	✓	✓
PGE 4468	✓	✓	✓	✓	✓		✓		✓	✓
PGE 4370	✓	✓	✓		✓	✓		✓	✓	✓
PGE 4372	✓	✓	✓	✓	✓				✓	✓
PGE 5471		✓		✓		✓	✓	✓	✓	✓
PGE 5473	✓		✓	✓	✓	✓		✓	✓	
PGE 5475	✓	✓				✓	✓		✓	✓
PGE 5477	✓	✓			✓		✓	✓	✓	✓
PGE 5479	✓	✓	✓	✓	✓		✓		✓	✓
PGE 5481	✓	✓	✓	✓			✓	✓	✓	✓
PGE 5472	✓		✓	✓	✓	✓		✓	✓	
PGE 5374	✓	✓	✓	✓	✓		✓	✓	✓	✓
PGE 5476		✓	✓		✓			✓	✓	✓
PGE 5478	✓	✓			✓		✓	✓	✓	✓
PGE 5480	✓	✓	✓	✓	✓			✓	✓	
PGE 5382 PGE 5384 PGE 5386 PGE5388	✓	✓	✓	✓	✓		✓	✓	✓	✓
PGE 5266	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGE 5483				✓			✓		✓	

Mapping of Programme Specific Outcomes (PSOs) with Programme Outcomes (POs)

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
PSO 1	✓	✓	✓	✓		✓	✓	✓	✓	✓
PSO 2	✓	✓	✓	✓			✓	✓	✓	✓
PSO 3		✓	✓				✓	✓	✓	✓
PSO 4	✓	✓	✓		✓	✓	✓			
PSO 5	✓	✓	✓	✓	✓		✓	✓	✓	✓
PSO 6	✓	✓		✓	✓	✓		✓	✓	✓
PSO 7		✓	✓	✓	✓		✓	✓	✓	✓
PSO 8		✓	✓		✓	✓				
PSO 9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PSO 10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

PGE 5471   **Modern Literary Theories II**   **5 Hrs./4 Cr.**
                               (Mod Lit Theories II)

Thecourse is a sequential course to Modern Literary Theories I and it introduces Psychoanalytic, Feminist, Cultural Postcolonial and Postmodern Theories. It will familiarize students with different critical perspectives, and help them critique literary texts by integrating literary theories. It will train students to use theoretical framework in literary analysis.

At the end of the course, students will be able to read, analyse, and examine texts and produce responses from the point of view of

i.   psychoanalytic theories,
ii.   feminist theories,
iii.   cultural theories,
iv.   postcolonial theories, and
v.   postmodern theories.

Unit 1	**Psychoanalytic Theories**	**(14 Hours)**
	Julie Rivkin &et al.	"Introduction: Strangers to Ourselves: Psychoanalysis" (Rivkin 199-127)
	Jacques Lacan	"The Mirror Stage as Formative of the Function of the I as Revealed in Psychoanalytic Experience" (Rivkin 178-183)
	Frantz Fanon	"The Negro and Psychopathology"
Unit 2	**Feminist Theories**	**(14 Hours)**
	Raman Selden & et al.	"Feminist Theories" (Selden 115-137)
	Elaine Showalter	"Towards a Feminist Poetics"
	Helene Cixous	"The Laugh of Medusa"
Unit 3	**Cultural Theories**	**(19 Hours)**
	Julie Rivkin & et al.	"Starting with Zero: Basic Marxism" (Rivkin 232-242)
	Louis Althusser	"Ideology and Ideological State Apparatuses" (Rivkin 294-304)
	Aram Veeser	"The New-Historicism"
	Alan Sinfield	"Cultural Materialism, Othello, and
	the	Politics of Plausibility"
Unit 4	**Postcolonial Theories**	**(14 Hours)**
	Raman Selden & et al.	"Postcolonialist Theories" (Selden 281-235)
	Edward Said	"Orientalism Now"
	Homi K. Bhabha	"Of Mimicry and Man: The Ambivalence of Colonial Discourse"

Unit 5	**Postmodern Theories**	**(14 Hours)**
	Raman Selden & et al.	"Postmodern Theories" (197-212)
	Jean Francois Lyotard	"Answering the Question: What is Postmodernism?"
	Bell Hooks	"Postmodern Blackness"

References

Abrams, M. H. and Geoffrey Galt Harpham. *A Glossary of Literary Terms.* 10[th]edn. Wadsworth Cengage Learning, 2012.

Bressler, Charles, E. *Literary Criticism: An Introduction to Theory and Practice.* 5[th]edn. Pearson Prentice Hall.

Eagleton, T. *Literary Theory: An Introduction.* Blackwell, 2008.

Lodge, David, and Nigel Wood, eds. *Modern Criticism and Theory: A Reader.* 3[rd]edn. Pearson Longman, 2008.

Rivkin, J. and Ryan, m. (eds.): *Literary Theory: An Anthology.* 2[nd]edn. Blackwell.

Selden Raman & et al. *A Reader's Guide to Contemporary Literary Theory*. 5[th]edn. Pearson Educational Ltd., 2005.

Stott, Jon C., Raymond E. Jones, and Rock Bowers, (eds.). *The Harbrace Anthology of Short Fiction.* 4[th]edn. Nelson Thomson Learning, 2006.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2		2	3	4	5	6
CO3		2	3	4	5	6
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean	4					

PGE5473   **British Literature III**   **5 Hrs./4 Cr.**
                               (British Lit III)

        Third in the sequence of three courses on British Literature, thecourse explores the way literature developed during the twentieth century in England. It further intends to provide students a multilayered understanding of British society, culture tradition and political and artistic milieu of the twentieth century. Students are exposed to the various literary genres of British Literature in the twentieth century through references to writers and their works which reflect social, literary and political situations of the times. Through the prescribed texts, students will explore the ways in which modern writings break away from the early literary models of the Victorian realism.

At the end of the course, students will be able to

   i.   analyse the essential features of twentieth century poetry such as objective correlative, fragmentation, free verse and irregular rhyming with reference to T. S. Eliot's Wasteland,
   ii.   assess the pervasive characteristics of modern poetry: free verse and untraditional forms, disillusionment and a preoccupation with perception, and fragmented reality,
   iii. examine the innovative techniques introduced by writers of the twentieth century prose,
   iv.   evaluate the modern narrative techniques of linguistic inventiveness, including methods of psychoanalysis and stream of consciousness, and
   v.   interrogate on the themes, dialogues and theatre forms of twentieth century plays and playwrights.

Unit 1   **Poetry I**   **(20 Hours)**
                  T. S. Eliot   *The Wasteland*

Unit 2   **Poetry II**   **(15 Hours)**
                  W.B. Yeats   "Sailing to Byzantium"
                  W.H. Auden   "The Unknown Citizen"
                                                        "The Thought Fox"
                  Siegfried Sassoon   "Counter-Attack"
                                                        "How to Die"
                  Wilfred Owens   "A Strange Meeting"
                  Philip Larkin   "Church Going"
                  John Masefield   "On Growing Old"
                  Rupert Brooke   "The Soldier"
                  Gerard Manley Hopkins   "God's Grandeur"
                  Robert Graves   "The White Goddess"

Unit 3   **Drama**   **(15 Hours)**
                  Edward Bond   *Lear*
                  Tom Stoppard   *Rosencrantz and Guildenstern are Dead*

Unit 4   **Prose**   **(10 Hours)**
                  Virginia Woolf   *A Room of One's Own*

Unit 5	**Novel**	**(15 Hours)**
	Joseph Conrad	*Heart of Darkness*
	James Joyce	*Dubliners*
	William Golding	*Lord of the Flies*

References

Spears Booker, Jewel and Joseph Bentley.*Reading the Waste Land: Modernism and the limits of Interpretation*.University of Massachusetts Press, 1990.

Larrisy, Edward.*Reading Twentieth Century Poetry*. Basil Blackwell, 1990.

Dobree, Bonamy. Ed. *Modern Prose Style*. Clarendon Press, 1934.

Sue, Roe, and Susan Sellers.*The Cambridge Companion to Virginia Woolf*. Cambridge University Press, 2000.

Innes,Christopher. *Modern British Drama 1890-1990*. Cambridge University Press, 1992.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2		2	3	4	5	6
CO3		2	3	4	5	6
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean	4					

PGE5475   **Teaching English As a Second Language**   **5 Hrs./4 Cr.**
                              (Teaching Eng as II Lang)

Thecourse introduces students to the various aspects of teaching English as a second language in the Indian context. It enables students to learn the techniques and strategies of teaching LSRW skills, assessment & evaluation, and classroom managerial skills.

At the end of the course, students will be able to
    i.   approach and manage LT classroom, design instructional material and evolve learners' strategies,
    ii.   teach LSRW skills and develop materials,
    iii.   employ pronunciation skills, grammar & vocabulary teaching skills, assign project work & exploit ESP,
    iv.   assess and evaluate students' performance, explore technology and literature use in classroom to develop professionally, and
    v.   practice teaching in order to become teachers as professionals.

Unit 1   **Approaches, Classroom Management, Instructional Materials, Task-Based Teaching, & Learner Strategies.(17 Hours)**
          i.   H. Douglas Brown: English Language Teaching in the "Post-Method" Era: Toward Better Diagnosis, Treatment, and Assessment
          ii.   Marilyn Lewis: Classroom Management
          iii.   Jane Crawford: The Role of Materials in the Language Classroom: Finding the Balance
          iv.   David Beglar& Alan Hunt: Implementing Task-Based Language Teaching
          v.   Rebecca Oxford: Language Learning Strategies

Unit 2   **Teaching Listening, Speaking, Reading, Writing & Materials Development. (17 Hours)**
          i.   John Field: The Changing Face of Listening
          ii.   Kang Shumin: Factors to Consider: Developing Adult EFL Students' Speaking Abilities
          iii.   Joy Janzen: Teaching Strategic Reading
          iv.   Ann Raimes: Ten Steps in Planning a Writing Course and Training Teachers of Writing
          v.   Brian Tomilson: Materials Development

Unit 3   **Teaching Pronunciation, Grammar, Vocabulary, Project Work & ESP (17 Hours)**
          i.   Rodney H. Jones: Beyond 'Listen and Repeat': Pronunciation Teaching Materials and Theories of Second Language Acquisition
          ii.   Rod Ellis: Grammar Teaching—Practice or Consciousness-Raising?
          iii.   Paul Nation: Best Practice in Vocabulary Teaching and Learning
          iv.   Fredricka L. Stoller: A Means to Promote Language and Content
          v.   Tony Dudley-Evans: English for Specific Purposes

Unit 4   **Assessment, Evaluation, Technology in Classroom, Professional Development, & Lit in Lang Classroom (17 Hours)**
    i.   Geoff Brindley: Assessment
    ii.   Fred Genesee: Evaluation
    iii.   Elizabeth Hanson-Smith: Computer-assisted Language Learning
    iv.   Penny Ur: The English Teacher as Professional
    v.   Joanne Pettis: Developing our Professional Competence
    vi.   Alan Maley: Literature in the Language Classroom

Unit 5   **Practice Teaching (7 Hours)**

Textbooks
Richards, J.C. &Renandya, W.A. (eds.). 2010. *Methodology in Language Teaching: An Anthology of Current Practice*. CUP.
Carder, R. & Nunan, D. (eds.). The Cambridge Guide to Teaching English to Speakers of Other Languages. CUP.

References
Anderson, N.J. 1999. *Exploring Second Language Reading: Issues and Strategies*. Heinle&Heinle.
Bailey, KM. and L. Savage (eds) 1994. *New Ways in Teaching Speaking*. TESOL.
Beatty, K.(2003). *Applied Linguistics in Action*: *CALL*. Pearson.
Benson, P. 2001. *Teaching and Researching Autonomy in Language Learning*. Longman
Campbell, C. 1998. *Teaching Second Language Writing*: Interacting with text. Heinle&Heinle.
McCarthy, M.1991. *Discourse Analysis for Language Teachers*. Cambridge University Press.
Mendelsohn, D. and J.Rubin (eds) 1995. *A Guide for the Teaching of Second Language Listening*. Dominie Press.
Nunan, D. 1999. *Second Language Teaching and Learning*. Heinle&Heinle.
Richards J. and W. Renandya (eds) 2002. *Methodology in Language Teaching*. Cambridge University Press.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2	3	4	5	
CO2	1	2	3	4	5	6
CO3	1	2	3	4	5	6
CO4	1	2	3	4	5	6
CO5						6
Mean	3.5					

PGE 5477 **Cultural Studies** **5 Hrs./4 Cr.**
(Cultural Studies)

Cultural Studies analyses the relationship between culture and meaning. it explores the historical foundation, traits, conflicts, contingencies of contemporary culture. It also breaks the textual regimentation by interrogating cultural perspective in advertisements, films, television, newspapers, internet texts and so on that saturate our lives. The course helps to trace out how cultural practices relate to wider system of power association or operating through social phenomena such as ideology, media, national formations, ethnicity, sexual orientation, gender and generation.
At the end of the course, students will be able to

i. discover the contours of Cultural Studies as a field of inquiry, situating their learning within explorations of the disciplinary and historical context of the field,
ii. introduce the diverged concepts of cultural theorists for the deep knowledge,
iii. study the role of film in society, the structures which define the practice of filmmaking and the changing ways we consume film content which address 'culture', 'media' and 'society' as part of a broader global and historical context,
iv. understand how space has developed as a site of cultural life, and
v. analyse the embedded beliefs and stereotypes of the racial and ethnic groups from the social, historical and political perspective.

Unit 1	**Introduction**	**(14 Hours)**
	Mathew Arnold	*Culture and Anarchy* (Chapter IV)
	Raymond Williams	"Culture" pp 87-93 in *Keywords: A Vocabulary of Culture and Society.*
	Colin Sparks	"The Evolution of Cultural Studies…" (from John Storey's *What is Cultural Studies? A Reader*).

Unit 2	**Media and Culture**	**(20 Hours)**
	Devaki V.	"Representation of Cast(e) in Tamil Cinema: Pride and Prejudice"
	Tejaswini Niranjana	"Integrating Whose Nation?: Tourists and Terrorists in Roja"
	David Forgacs	"Cinema and Cultural Studies"

Unit 3	**Space and Culture**	**(13 Hours)**
	Serena Nanda	"Life on the Margins: A Hijra's Story"
	Arjun Appadurai	"Disjuncture and Difference in Global Cultural Economy"
	Michel de Certeau	"Walking in the City"

Unit 4	**Ethnicity and Culture**	**(15 Hours)**
	Mathew Harp Allen	"Rewriting the Script for South Indian Dance"

Bhaskar Mukhopadhyay	"Between Elite Hysteria and Subaltern Carnivalesque: Street Food and Globalisation in Calcutta"
Amanda Weidman	"Can the Subaltern Sing? Music, Language and the Politics of Voice"

Unit 5   **Community and Culture**   **(13 Hours)**

Gustavo Lins Ribeiro	"What is Cosmopolitanism?"
Divya N.	"Reading Community and Culture in Translated Fiction: Representation of Cochin-Creole Society"
Mari Korpela of	"Growing Cosmopolitan? Children Western Lifestyle Migrants in Goa, India"

References

Emiliana De Blasio. *Introduction to Film Studies*.Carocci, 2013.

Pickering, Michael, et al. *Research Methods for Cultural Studies.* Edinburg University Press, 2008.

Barker, Chris. *Cultural Studies: Theory and Practice* 3rd ed. Sage,2008.

…*The SAGE Dictionary of Cultural Studies*.Sage*, 2004.*

During, Simon. *The Cultural Studies Reader*. Routledge, 2007.

Storey, John. *An Introduction to Cultural Theory and Popular Culture*. Pretence Hall, 1997.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				6
CO2	1	2	3			
CO3			3	4		6
CO4			3	4	5	
CO5			3		5	6
Mean	3.6					

PGE 5479   **African-American Literature**   **5 Hrs./4 Cr.**
(African-American Lit)

The course intends to capture the wide sweep of the distinct literary voices emerging from various movements which are at once social, cultural, political and literary. As a distinct body of literature, African-American Literature, calls for a study of black writers' thematic obsession with racial identity, social constructs and black aesthetics. Students will be introduced to African-American literature as a site where writers re-appropriate and revise language and ideas that have been used to exclude them from the main stream American literary scene.

At the end of thecourse, students will be able to
i.   analyse the movements and trends that shaped African American Literature,
ii.   estimate the various speeches and concepts of living which changed American history,
iii.   evaluate the relation between Black Aesthetics and racism in literary productions,
iv.   relate to the various expressions of social reality portrayed in short fiction, and
v.   validate representative socio-political, cultural, racial and gender perspectives in theatrical works.

Unit 1	**Poetry**	**(20 Hours)**
	Paul Laurence Dunbar	"We Wear the Mask"
	Fenton Johnson	"Who is that A-Walking in the Corn?"
	Georgia Douglas Johnson	"Smothered Fires"
	Claude McKay	"If We Must Die"
	Countee Cullen	"Heritage"
	Gwendolyn Brooks	"Mother"
	Maya Angelou	"Still I Rise"
	W. E. B. Du Bois	"Ghana Calls"
	Alice Dunbar Nelson	"To the Negro Farmers of the United States"
	Margaret Walker	"For Malcom X"
	Langston Hughes	"Harlem "The Weary Blues"
	James Weldon Johnson	"Brothers" "American Drama"
	Rita Dove	"Heart to Heart"

Unit 2	**Drama**	**(15 Hours)**
	Langston Hughes	*Mulatto*
	Amiri Baraka	*Dutchman and the Slave*

Unit 3	**Prose**	**(10 Hours)**
	Marcus Garvey	"Speech Delivered at Madison Square, March 1924"
	W.E.B. Du Bois	"Of the Dawn of Freedom"

Unit 4	**Fiction**	**(20 Hours)**
	Zora Neale Hurston	*Their Eyes were Watching God*

Toni Morrison   *The Beloved*

Unit 5   **Short Fiction**   **(10Hours)**
           Jean Toomer   "Becky"
           Ann Petry   "The Bones of Louella Brown"
           Alice Walker   "Everyday Use"
           Kia Penso   "The Gift" (SS)
           Breena Clarke   "The Drill" (SS)

References
Barksdale, Richard and KenethKinnamon. *Black Writer of America: A Comprehensive Anthology*. Macmillan, 1972.

Blaisdell, Bob (ed.). *Great Short Stories by African-American Writers*. Dover Publications, 2015.

Cohen, Henning (ed.). *Landmarks of American Writing.* Voice of American Forum Series, 1982.

Cunliffe, Marcus. *The Literature of the United States.* Penguin, 1970.

Feidelson Jr., Charles and Paul Brodtkorb Jr. *Interpretations of American Literature.* OUP, 1971.

Fender, Stephen. *American Literature in Context I to IV*. Methuen & Co., 1983.

Massa, Ann and Scott Donaldson. *American Literature.* London: David and Charles, 1978

Spiller, E. Robert. *The Cycle of American Literature.* The Free Press, 1967

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3	4		
CO2			3	4		
CO3		2	3	4	5	
CO4		2	3			
CO5				4	5	6
Mean	3.7					

PGE 5481   **Asian Literatures in English**   **5 Hrs./4 Cr.**
                        (Asian Lit in English)

Thecourse aims at introducing students to diverse literatures of Asia with special reference to East Asia and Southeast Asia. It enables students to understand the historical, political, social and cultural aspects specific to Asian literatures.

At the end of the course, students will be able to

i.   analyse the issues around which the poems are featured,
ii.   critique the experiences of Asian writers as recorded by them through noble lectures and non-fiction,
iii.   infer the socio-political aspects reflected in the plots of South Asian and South East Asian fictions,
iv.   evaluate thepopular culture, magical realism and social realism as expressed in literary productions of East Asia, and
v.   validate the socio-political perspectives dramatized in plays of South East Asia and East Asia

Unit 1	**Poetry**	**(7Hours)**
	Lee Tzu Pheng	"My Country, My People"
	Edwin Thumboo	"Gods can Die"
	Li-Young Lee	"A Hymn to Childhood"
		"Changing Places in the Fire"
	Faiz Ahmad Faiz	"The Dawn of Freedom, August 1947" tr. Barun Farooqui
	Monica Sok	"Ask the Locals"
		"Song of an Orphaned Soldier"
	Ý Nhi	"The Soldier"

Unit 2	**Drama**	**(15 Hours)**
	Kee ThuanChye	*1984, Here and Now*
	Lao She	*Tea House*

Unit 3	**Prose**	**(5 Hours)**
	Kenzaburo Oe	"Japan the Beautiful and Myself"
	Gao Xingjian	"The Case for Literature"

Unit 4	**Fiction I**	**(24Hours)**
	ShyamSelvadurai	*Funny Boy*
	Shirley Geok-Lin Lim	"Shame"
	Intizar Husain	"Kela"
	A.Yuson	*The Great Philippine Jungle Energy Café*
	Pramodeya Ananta Toer	"Blora"

Unit 5	**Fiction II**	**(24 Hours)**
	Haruki Murakami	*Kafka on the Shore*
	Han Kang	*Human Acts*
	Zhu Wen	"Boat Crossing" (45 pgs.)

References

The Columbia Anthology of Modern Chinese Drama. Ed.Xiomei Chen. CUP, 2010.
The Columbia Anthology to Modern East Asian Literature. Ed. Joshua Mostow,
    Columbia University Press, 2003.
Master Works of Asian Literature in Comparative Literature. Ed. Barbara Stoler Miller,
    ME Sharp, 1994.
Wen, Zhu. *I Love Dollars and Other Stories*, Tr Julia Lovell. CUP, 2007.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4		
CO2		2	3	4	5	
CO3		2	3	4	5	6
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean				3.7		

PGE 5472   **British Literature IV**   **5 Hrs./4Cr.**
                     (British Lit IV)

   Thecourse introduces students to various literary texts representative of late 20th and 21st century British literature. This course would help students to develop a critical perspective of literary texts, understand the concepts of modernism and explore different literary techniques.

At the end of the course, students will be able to
  i. analyse modern prose using appropriate literary strategies,
  ii. evaluate the new imagery, complex thoughts and new trends in modern poetry,
  iii. critique on ideas, themes and narrative styles in short stories,
  iv. explain the social, cultural, political and artistic milieu of the modern plays,
  v. evaluate novels of the contemporary times with focus on socio-cultural contexts and literary merits.

Unit 1	**Poetry**	**(15 Hours)**
	Carol Ann Duffy	"Prayer"
		"Mrs. Midas"
	Imtiaz Dharker	"A Century Later"
	Paul Muldoon	"Hedgehog"
		"Truce"
	Seamus Heaney	"Blackberry-Picking"
		"Digging"
	Simon Armitage	"I Say I Say I Say"
	Andrew Motion	"Losses"

Unit 2	**Drama**	**(15 Hours)**
	David Hare	*A Map of the World*
	Alan Ayckbourn	*Confusions*

Unit 3	**Prose**	**(10 Hours)**
	Salman Rushdie	"Imaginary Homelands"
	Christopher Hitchens	"The Dark Side of Dickens"
	Doris Lessing	"When in the Future they Look Back
	on	Us"

Unit 4	**Fiction**	**(20 Hours)**
	Kazuo Ishiguro	*The Remains of the Day*
	John Fowles	*The French Lieutenant's Woman*

Unit 5	**Short Story**	**(15 Hours)**
	Roald Dahl	"Genesis and Catastrophe: A True Story"
	A.S. Byatt	"The Glass Coffin"
	Ian McEwan	"Cockroach"
	Angela Carter	"The Company of Wolves"

References

Byatt, Antonia Susan. *The Djinn in the Nightingale's Eye: Five Fairy Stories; The Glass Coffin; Geode's Story; The Story of the Eldest Princess; Dragon's Breath*. Chatto and Windus, 1994.

Hitchens, Christopher. *Arguably: Essays*. Signal/McClelland & Stewart Press,2011.

Malcolm, David. *Understanding Ian McEwan*. University of South Carolina Press, 2002.

Shaffer, Brian W. *Understanding Kazuo Ishiguro.* University of South Carolina Press, 2008.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4		
CO2		2	3	4	5	
CO3		2	3	4	5	
CO4		2	3			
CO5		2	3	4	5	
Mean			3.2			

PGE 5374 **New Literatures in English** **5 Hrs./3 Cr.**
(New Lit in English)

   Thecourse aims at a critical engagement with the literary texts that have emerged from countries in Asia, Africa, Canada, the Caribbean Islands and the Oceanic world. These regions have their own specific experiences with and histories of European colonization. The literary responses from the former colonies are an anti-colonial and anti-essentialist discourse that interrogates the colonial constructions of the Other. Students will engage with these texts from the postcolonial perspective. This course will also help students explore the portrayal of colonial process and the strategies of anti-colonial resistance that inhere in these texts. They will also be able to analyse the relevance of Postcolonialism in the era of globalization.

At the end of this course, students will be able to

 i. appraise the philosophical and theoretical issues relating to colonialism, race, mimicry, Orientalism, indigeneity, de-colonisation and postcolonial condition,

 ii. assess central issues and techniques in literary texts from these regions,

 iii. evaluate literary texts by using key theoretical concepts in Postcolonial Studies such as cultural encounter and change, negritude and apartheid,

 iv. critique concepts such as Migration, creole and hybridity, and

 v. formulate paradigms of cultural formation and diversity through the notions of Diaspora, Home-in-exile, post-nation and to engage with emerging global concerns.

Unit 1 **Introduction: Definition, Scope & Politics (12 Hours)**

C.D. Narasimhaiah	"Commonwealth or Commonwealth of Literature"
Ngugi WaThiong'o	"The Language of African Literature" from *Decolonising the Mind*
Ania Loomba	"Situating Colonial and Postcolonial Studies"

Unit 2 **Canada** **(15 Hours)**

Michael Ondaatje	*The English Patient*
George Elliot Clarke	*George and Rue*
A. M. Klein	"Indian Reservation: Caughnawaga"
Margaret Atwood	"True Trash"

Unit 3 **The Caribbean** **(17 Hours)**

Derek Walcott	*The Pantomine*
	"A Far Cry from Africa"
Sam Selvon	*Those who Eat the Cascadura*
GianninaBraschi	*United States of Banana*

Unit 4 **Australia** **(14 Hours)**

David Malouf	*An Imaginary Life*
Patrick White	*The Prodigal Son*
Judith Wright	*At Cooloolah*

Unit 5	**New Zealand**	**(17 Hours)**
	Briar Grace-Smith	*Nga PouWahine*
	A. D. Hope	*The Wandering Islands*
	Witi Ihimaera	*The Life is Weary*

References

Ashcroft, Bill, et al. *The Empire Writes Back: Theory and Practice in Post-Colonial Literatures*. Routledge, 2002.

Birbalsingh, Frank. *Novels and the Nation: Essays in Canadian Literature.* TSAR Publications, 1995.

King, Bruce. *The New English Literatures: Cultural Nationalism in a Changing World.* Macmillan, 1980.

Loomba, Ania. *Colonialism/Postcolonialism*. Routledge, 1998.

... West Indian Literature. (1973). Macmillan, 1973.

Narasimhaiah, C.D. (ed.). *Commonwealth Literature*. Oxford university Press, 1976.

...(ed.). *Awakened Conscience: Studies in Commonwealth Literature*. Sterling, 1978.

Walsh, William (ed.). *Readings in Commonwealth Literature.* Clarendon, 1973.

... Commonwealth Literature. Oxford University Press, 1973.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1				4	5	
CO2					5	
CO3				4	5	
CO4					5	
CO5						6
Mean	4.9					

PGE 5476   **History of Englishes**   **5 Hrs./4 Cr.**
                          (History of Englishes)

       The course introduces students to the historical development of English. It analyses the various sociolinguistic factors that have contributed to the pluricentricity of the English language in global contexts.

At the end of this course, students will be able to

    i.   construct the history of English in terms of how it is historically developed, socially learnt, and orally transmitted,

    ii.   assess the influence of social movements on English,

    iii.   evaluate the influence of science and colonization on the development of English as international language,

    iv.   appraise the various developments that enriched English vocabulary and meaning, and

    v.   develop critical awareness of the different forms and functions of Englishes.

Unit 1   **Old and Middle English**   **(20 Hours)**
           Theories on the Origin of Language, Origin of English, Old English: Sounds, Letters, Vocabulary, Grammar, Vowel Gradation, i-mutation, & Influence of Foreign Languages, Middle English: Sounds, Words, Influence of French, Grammar.

Unit 2   **Early Modern English and Appeal to Authority**   **(15 Hours)**
           Influence of the Renaissance and Reformation on English, Early Modern English, & Role of Dictionaries in English.

Unit 3   **19th and 20th CenturyEnglish**   **(15 Hours)**
           Influence of Science & Technology, Colonization, the World Wars on English, Branching of English into National Dialects.

Unit 4   **Vocabulary and Meaning**   **(15 Hours)**
           Growth of Vocabulary, Change of Meaning, & Etymology of Words.

Unit 5   **WorldEnglishes**   **(10 Hours)**
           KachruvianInner, Outer & Expanding Circle Englishes, &Postcolonial Englishes using Schneider's 'Dynamic model'

References

Baugh, Albert C. 2000. *A History of the English Language*. Routledge.
Flavell, Linda and Roger. 2000. *Dictionary of Word Origins*. Kyle Cathie.
Jesperson, Otto. 2009. *Growth and Structure of the English Language*. Cambridge Scholars Publishing.
Kachru, Braj. 2004. *Asian Englishes: Beyond the Canon*. Hong Kong University Press.
Schneider, Edgar. 2007. *Postcolonial English: Varieties around the world*. CUP.
Wood, Frederick T. 1979. *An Outline History of the English Language*. Macmillan.
Wrenn, C. L. 2001. *The English Language*. Vikas.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2		4	5	6
CO2		2	3		5	
CO3		2	3	4	5	
CO4			3	4	5	6
CO5			3			6
Mean			4			

PGE5478   **European Literatures in Translation   6 Hrs./4 Cr.**
                               (European Lit in Trans)

       The course aims at introducing students to the rich European literary traditions from Homer and Virgil to Camus and Beckett. While acknowledging the political, philosophical and aesthetic vibrancy of the Continent, students will learn how literary texts record, respond to, and influence the socio-political activities of nations.
At the end of this course, students will be able to

    i.   validate philosophical components that permeate prescribed literary works at large,

    ii.   examine literary texts of at least five major western literatures namely Greek, Italian, German, French and Russian that are part of the European literary canon,

    iii.   evaluate the works with traditional tools as well as that of Existentialism, and Absurdism

    iv.   critique civilization, human dignity, honour, patriotism and political ideologies as socio-political myths, and

    v.   justify human life as inherently conflict ridden and absurd,

Unit 1	**Philosophy**	**(18Hours)**
	Jean Paul Sartre	*Existentialism*
	Frederick Patka	*Existentialist Thinkers and Thought*
	II	(Kierkegaard, Heidegger, and
	Gabriel	Marcel)
	Arnold P. Hinchcliffe	*The Absurd* (Chapters 5 & 6)
Unit 2	**Poetry**	**(18Hours)**
	Homer	"Priam and Achilles" from *The Iliad* (Book XXIV)
	Virgil	"The Trojans Reach Carthage" from
	The	*Aeneid* (Book I)
	Dante Alighieri	"Paradise Canto XXX" from *Divine Comedy*
	Johan Wolfgang von Goethe	"Prologue in Heaven" from *Faust.*
	Charles Baudelaire	"Her Hair"
Unit 3	**Drama**	**(18Hours)**
	Sophocles	*Antigone*
	Samuel Beckett	*Waiting for Godot*
Unit 4	**Prose**	**(18Hours)**
	Plato	"The Apology of Socrates"
	Michel De Montaigne	"Of Cannibals"
	Jean-Jacques Rousseau	"Confessions" Part I, Book I.
	Albert Camus	"The Myth of Sisyphus"
Unit 5	**Fiction**	**(18Hours)**
	Anton Chekov	*Vanka*
	Leo Tolstoy	*The Death of Ivan Ilyich* (SS)
	Franz Kafka	*The Metamorphosis*

References

Bradbury, Malcolm and James McFarlane (eds.). *Pelican Guide to European Literature: Modernism.* Pelican, 1981.

Esslin, Martin. *The Theatre of the Absurd.* Penguin, 1968.

Hinchliffe, Arnold P. *The Absurd: The Critical Idiom.* Methuen, 1977.

Patka, Frederick. *Existentialist Thinkers and Thought.* Citadel press, 1972.

Reynolds, Jack. *Understanding Existentialism.* Acumen, 2007.

Thorlby, Anthony (ed.). *Companion to European Literature.* Penguin Books, 1969.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2		2	3		5	6
CO3		2	3	4		6
CO4		2	3	4	5	
CO5		2		4	5	6
Mean				3.9		

PGE 5480   **African Literature**   **5 Hrs./4 Cr.**
                      (African Literature)

       The course focuses on the significant contribution made by African writers toLiterature. It emphasises distinct aspectsof African Literature like slave narratives, negritude, protests against colonialization, call for independence, African pride and hope for future, dissent, race, ethnicityand the African literary traditions. It also focuses on the language of the African literature which is enriched with aspects of oral literature like songs, proverbs and narratives. In addition, the course brieflysurveys African Literature with texts representing different literary genres.

At the end of the course, students will be able to

    i.   analyse the diversepoetic traditions of Africa,
    ii.   appraise the diverse voices of Africa through African prose,
    iii.   correlate the relation between Black Aesthetics and Racism in African plays,
    iv.   discover form and pattern in texts as means of understanding their meanings in African short stories, and
    v.   critically evaluate African fiction in terms of socio-political, cultural and racial and gender perspectives.

Unit 1	**Poetry**	**(15 Hours)**
	David Diop	"Africa"
	Gabriel Okara	"Once upon a Time"
	Jean Joseph Rabearivelo	"Cactus"
	Walter Odame	"Dear Child"
	Wayne Visser	"I am an African"
	John Pepper Clark	"The Casualties"
	MaxamedIbraahim Warsame	"Has Love been Blood Written" tr. Martin Orwin.
	Mazisi Kunene	"A Note to All Surviving Africans"
Unit 2	**Drama**	**(15 Hours)**
	Athol Fugard	*Master Harold…and the Boys*
	Wole Soyinka	*The Lion and the Jewel*
Unit 3	**Prose**	**(15 Hours)**
	Ngugi WaThiong'o	"Introduction" from *Decolonising the Mind*
	Thabo Mbeki	"I am an African"
	Chinua Achebe	"An Image of Africa: Racism in Conrad's *Heart of Darkness*"
	Wangari Mathai	"Nobel Prize Acceptance Speech"
Unit 4	**Fiction**	**(15 Hours)**
	J. M. Coetzee	*Disgrace*
	Chimamanda Ngozi Adichie	*Half a Yellow Sun*

Unit 5	**Short Story**	**(15 Hours)**
	Nadine Gordimer	*A Watcher of the Dead*
	Sembene Ousmane	*Tribal Scars*
	OyetSistoOcen	*In the Plantation*

References

Tejumola Olaniyan and John Conteh-Morgan. Ed. *African Drama and Performance.* Indiana University Press, 2004.

Chipasula M. Frank. Ed. *Bending the Bow: An Anthology of African Love Poetry.* Southern Illinois University, 2009.

Visser, Wayne. *I am an African.* Kaleidoscope Futures, 2016.

Oboko, Ekene. Ed. Suubi*: A Collection of Short Stories and Poems from the African Writers Trust's Creative Writing Programme Produced in Association with the British Council.* The African Writers Trust and British Council, 2013.

Ousmane, Sembene. *Tribal Scars and Other Stories*. Socialist Stories, 1962.

Maathai, Wangari. "The Nobel Peace Prize 2004." NobelPrize.org, The Nobel Foundation, 2020, www.nobelprize.org/prizes/peace/2004/maathai/26050-wangari-maathai-nobel-lecture-2004/.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2		2	3	4	5	
CO3		2	3	4	5	
CO4		2	3	4	5	6
CO5			3	4	5	6
Mean		**3.2**				

PGE 5382   **Amitav Ghosh**   **4 Hrs./3 Cr.**
                              (Amitav Ghosh)

        The course is designed to focus on the select works of Amitav Ghosh and thereby help students comprehend the wider vision of Indian Literature in English. Students will be able to understand and analyse the manifold perspectives of Indian Literature in English, Post-colonialism and Diasporic Sensibility. Students will be encouraged to read and critically appreciate the Diasporic literature.
At the end of this course, students will be able to
   i.   analyse the human intervention in ecology and its repercussions,
   ii.   construct pluralistic dimensions of this literature,
   iii.   classify the author and texts within world-behind, world-in and world-beyond,
   iv.   discuss Ghosh's contribution to Indian Literature in English with various themes and issues, and
   v.   evaluate the Postcolonial and Diasporic dimensions of Ghosh Writings.

Unit 1   **Prose**   **(12 Hours)**
                  "The Imam and the Indian"
                  "Part I Stories 1,2,3" from *The Great Derangement: Climate Change and*
           the   *Unthinkable.*
Unit 2   **Fiction (Sci-Fi)**   **(12 Hours)**
                  The Calcutta Chromosome

Unit 3   **Fiction (History)**   **(12 Hours)**
                  The Glass Palace

Unit 4   **Fiction (Climate)**   **(12 Hours)**
                  The Hungry Tide

Unit 5   **Fiction (Colonialism)**   **(12 Hours)**
                  Sea of Poppies

References
Dhawan, R.K., (ed.). *The Novels of Amitav Ghosh*. Prestige Books, 1999.
Bose, Brinda, (ed.). *Amitav Ghosh: Critical Perspectives*. Pencraft, 2003.
Bhargava, Rajul. *Indian Writing in English: The Last Decade.* Rawat Publications,2002.
Hawley, John Charles. *Amitav Ghosh: An Introduction.* Foundation Books, 2005.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	
CO2			3	4	5	6
CO3		2	3	4	5	
CO4		2	3	4	5	
CO5					5	6
Mean	3.9					

PGE 5384   **Mahasweta Devi**   **4 Hrs./3 Cr.**
                          (Mahasweta Devi)

        Thecourse offers an in-depth study of Mahasweta Devi's select works. It focuses on the importance of the role of writer as an activist and will sensitize students towards issues of subalternity. It will attune students to read and critically appreciate the given minority literature.

At the end of this course, students will be able to
   i.   interpret the female voices through these marginalized Literature,
   ii.   experiment with pluralistic understanding of tribal literature in translation,
   iii. analyse the texts within world-behind, world-in and world-beyond texts,
   iv.   appraise the voice of protest and tribal activism in Devi's Writings, and
   v.   discuss Devi's contribution to Indian Literature with various themes.

Unit 1   **Fiction I (Psychology)**   **(12 Hours)**
                  Mother of 1084 tr. Samik Bandyopadhyay

Unit 2   **Fiction II (Subaltern Voices)**   **(12 Hours)**
                  Chotti Munda and His Arrow tr. G.C. Spivak

Unit 3   **Fiction III (History)**   **(12 Hours)**
                  The Queen of Jhansi tr. Sagaree Sengupta

Unit 4   **Short Fiction I**   **(12 Hours)**
                  "Draupadi" tr. G. C. Spivak
                  "Behind the Bodice" tr. G. C. Spivak
                  "Breast Giver" tr. G. C. Spivak

Unit 5   **Short Fiction II**   **(12 Hours)**
                  Bitter Soil: Four Stories tr. Ipshita Chanda

References
Dasgupta, Sayantan. "Translating India Today: Local cultures, global ambitions and
        Colonial Hangovers." *Locating Cultural Change: Theory Method Process*. edited
        by ParthaPratimBasu and Ipdhita Chanda. Sage Publications India Pvt Ltd, 2011.
Arya, Shachi. *Tribal Activism: Voices of Protest*, Rawat, 1998.
Bardhan, Kalpana. *Of Women, Outcastes, Peasants, and Rebels: A Selection of Bengali
        Short Stories*. University of California Press, 1990.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	
CO2		2	3	4	5	
CO3			3	4	5	6
CO4			3	4	5	6
CO5						6
Mean	4.1					

PGE 5386   **Toni Morrison**   **4 Hrs/3 Cr.**
                                          (Toni Morrison)

        Thecourse aims at an in-depth study of Toni Morrison's works in relation to the African-American literary tradition. It will enhance students understanding of the African-American literary canon incorporating race, gender and culture.
At the end of this course, students will able to
    i.   recognize and articulate the development of the American and African American literary traditions.
    ii.   identify the important social, political and cultural events that impact the life of African Americans in literary canons,
    iii.   discuss the aspects of gender, race, ethnicity, class, religion and sexuality in literary texts,
    iv.   develop and strengthen skills in critical analysis, application, discussion, and presentation, and
    v.   historicize and situate diverse texts by Morrison.

Unit 1   **Prose I**   **(11 Hours)**
                    "Black Matters" from *Playing in the Dark*

Unit 2   **Prose II**   **(10 Hours)**
                    "The Nobel Lecture in Literature"
                    "Invisible Ink: Reading the Writing and Writing the Reading"

Unit 3   **Fiction (Race and Gender)**   **(13 Hours)**
                    Song of Solomon

Unit 4   **Fiction (Psychology)**   **(13 Hours)**
                    God Help the Child

Unit 5   **Fiction (History)**   **(13 Hours)**
                    Jazz

References
Middleton, David. *Toni Morrison's Fiction*: Contemporary Criticism. Routledge, 2015.
Du Bois, W. E. B. *Black Reconstruction*. Kraus-Thomson Organization Ltd, 1976.
Roynon, Tessa. *The Cambridge Introduction to Toni Morrison*. CUP,2013.
Tally, Justine. *The Cambridge Companion to Toni Morrison*. CUP, 2007.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	
CO2		2	3	4	5	
CO3			3	4	5	6
CO4			3	4	5	6
CO5						6
Mean	4.1					

PGE5388   **J.M. Coetzee**   **4 Hrs./3 Cr.**
                              (J. M. Coetzee)

  Thecourse examines the select works of J.M. Coetzee. The course offers to analyse the instances of racial oppression, environment apartheid South Africa. By close reading of the texts, the students are able to explore the singularity of Coetzee's writings and their relations between set of literary texts and the concepts of post-colonialism, apartheid, post-apartheid literature, historiography and protest literature.

At the end of this course, students will able to

  i. analyse African Americans way of life and experience,
  ii. investigate the possible embedded narratives between Coetzee's text and the social and political settings,
  iii. analyse characteristics of apartheid-era literature in English, and to compare Coetzee's writing with this corpus,
  iv. contextualize Coetzee's work in its historical setting, and
  v. assess the singularity of Coetzee's oeuvre.

Unit 1 **Fiction (History)** **(12 Hours)**
    Life and Times of Michael K

Unit 2 **Fiction (Political Thriller)** **(12 Hours)**
    Waiting for the Barbarians

Unit 3 **Fiction (Society and Ethics)** **(12 Hours)**
    Disgrace

Unit 4 **Fiction (Allegory)** **(12 Hours)**
    The Childhood of Jesus

Unit 5 **Short Stories** **(12 Hours)**
    "As a Woman Grows Older"
    "Youth"

References

Attwell, David. *J. M. Coetzee and the Life of Writing: Face-to-face with Time.* Penguin books,
  2015.
Gallagher, Susan VanZanten. *A Story of South Africa: J.M. Coetzee's Fiction in Context.*
  Harvard UP, 1991.
Madigan, Tim. *A Companion to the Works of J.M. Coetzee.* Camdan House, 2014.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	
CO2		2	3	4	5	
CO3			3	4	5	6
CO4			3	4	5	6
CO5						6
Mean	4.1					

PGE 422V **Indian Folklore** **2 Hrs/2 Cr.**
(Indian Folklore)

The course aims to expose students to the rich folk traditions of India. This course introduces to the cultural diversity of India through its Ancient folk tales.
At the end of this course, students will be able to
  i. understand the different types of folk traditions,
  ii. trace the growth of folklore and folk arts,
  iii. evaluate and infer the important elements of Indian Folklore,
  iv. deduce the human values and ethics from the stories, and
  v. validate the employment of myth in Indian epics.

Unit 1 **Introduction: Fables** **(6 Hours)**
  Tamil *The Jasmine Prince*
  Fraternal Unity
  Malayalam *KayamkulamKochunny Stories*

Unit 2 **Pourquoi Stories** **(6 Hours)**
  Kannada *The Clay Mother-In-Law*
  Marathi *Rupee Tree*
  How Patil's Cow Turned into a Cock

Unit 3 **Fairy Tales** **(6 Hours)**
  Bengali *The Boy with the Moon on His Forehead*
  The Ghost-Brahman
  The Story of the Rakshasas
  Phalkir Chand

Unit 4 **Fairy Tales** **(6 Hours)**
  Assamese *Daughters of Sun*
  Sons of Monkey
  The Snake Prince
  Kashmiri *The Wife who Refused to be Beaten*
  How the Wicked Sons were Duped

Unit 5 **Trickster Characters in Epics** **(6 Hours)**
  WithSpecial Reference to Ramayan and Mahabharat

References
Devy, G.N.ed. Painted Words: An Anthology of Tribal Literature. Penguin Books, 2002.
Islam, Mazharul. A History of the Folktales Collections in India and Pakistan. 1970.
Kotturan, George. Folktales of Assam. Sterling Publishers, 1976.
Ramanujan, A.K., The Folktales from India: A selection of oral tales from twenty-two languages. Pantheon Books, 1993.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2		4	5	
CO2		2	3	4		
CO3		2		4	5	
CO4		2		4	5	
CO5		2		4		6
Mean				3.6		

PGE 522V   **Philosophy for Literature**   **2 Hrs./2 Cr.**
                        (Philosophy for Lit)

        Western philosophy has a significant impact on both literary production and criticism. From Plato and Aristotle in the ancient world to Nietzsche and Heidegger in the modern world, various philosophical movements have caused radical interventions in art, literature, politics and human relationship. This course purports to introduce students to the basics of western philosophy. This intersection of philosophy and literature, it is believed, would enable students to broaden their understanding and interpretation of literary texts and theory.

At the end of this course, students will be able to
  i. understand humanism and classicism,
  ii. estimate the difference between rationalism and empiricism,
  iii. relate idealism and materialism with cultural theories,
  iv. evaluate the role of enlightenment philosophy in literary studies and the reaction to it in romanticism, and
  v. comprehend phenomenology in relation to aesthetics and individual self.

Unit 1   **Classicism and Humanism**   **(6 Hours)**

Unit 2   **Rationalism and Empiricism**   **(6 Hours)**

Unit 3   **Idealism and Materialism**   **(6 Hours)**

Unit 4   **Enlightenment and Romanticism**   **(6 Hours)**

Unit 5   **Pragmatism and Phenomenology**   **(6 Hours)**

References

Craig, Edward. *Philosophy: A Very Short Introduction*. OUP. 2002

Garrison, Winfred E. & M.D. Anderson. *Invitation to Philosophy.* University of Houston,1970.

Graham, Gordon. *Philosophy of the Arts: An Introduction to Aesthetics.* Routledge, 1997.

Kenny, Anthony. *A New History of Western Philosophy: Philosophy in the Modern World*, Vol. 4. OUP, 2007

…*A New History of Western Philosophy: The Rise of Modern Philosophy*, Vol. 3.OUP, 2006.

Price, Joan A. *Understanding Philosophy: Medieval and Modern Philosophy.* Infobase Publishing, 2008.

…*Understanding Philosophy: Ancient and Hellenistic Thought.* Infobase Publishing, 2008.

…*Understanding Philosophy: Contemporary Thought.* Infobase Publishing, 2008.

Shand, John. *Philosophy and Philosophers: An Introduction to Western Philosophy.* University College, 1993.

Warburton, Nigel, *Philosophy: The Basics*. Routledge, 2003.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2	1	2	3	4		6
CO3	1	2		4	5	6
CO4	1	2		4	5	6
CO5	1	2		4	5	6
Mean				3.4		

PGE 5483   **Communication Skills for Data Science**   **4 Hrs./ 4 Cr.**
                         (Comm Skills for Data Sc)

The course enhances specific communication skills and soft skills of Data Science students. It will enable them to interpret various data collected and present it convincingly and appropriately.

At the end of the course, students will be able to
  i.   interpret the information collected with findings,
  ii. present effectively with suitable audio-visual tools,
  iii. hone business insight skills,
  iv. listen, communicate, write and publish, and
  v.   apply language skills in different social media.

Unit 1   Data Analytical Skills   (10 Hours)
Types of graphs, Review, Analyse and present the data with findings in different forms (Graph to text and Text to graph)

Unit 2   Presentation Strategies   (15 Hours)
Purpose of presentation, Knowing audience and locale, Preparing and organising the content, Effective use of audio-visual aids, Nuances of presentation- Body language and Voice dynamics.

Unit 3   Inculcating Business Skills   (10 Hours)
Problem solving, Negotiation, Leadership skills, Multiple intelligence, Team spirit, Crisis management, Effective use of resource, Utilisation of business opportunities, Action plans.

Unit 4   Communication Skills   (15 Hours)
Listen to speak, Active listening, One-on-one communication, Storytelling/narration, Group discussion/ debate/ small talks, Language functions- compare and contrast, Giving suggestions and recommendations, Goal setting and Predicting future plans, Writing technical reports, Project proposals, Email etiquettes, Writing and publishing the content on web pages.

Unit 5   Social Media Etiquettes   (10 Hours)
Professional ethics, Language accuracy, Acknowledgements, Idea sharing without trade secrets, Networking for business communication- Twitter, Facebook, LinkedIn, etc.

References
Lawa, Anne. *Presentations*. Orient Blackswan, 2011.
Rutherford, Andrea J. *Basic Communication Skills for Technology*. Pearson Education, 2009.
Robert M Sherfield and et al. *Developing Soft Skills*. Pearson Education, 2009.
Sosulski, Kristen. *Data Visualization Made Simple: Insights into Becoming Visual*.
          Routledge, 2018.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4		
CO2		2	3	4	5	
CO3		2		4		
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean				**3.6**		

POSTGRADUATE DEPARTMENT OF MATHEMATICS

Value Added Courses
w.e.f. 2020-2021

Sl No	Year	Semester	Course code	Course Title
1	I	I	PGM 421V	Pedagogy of Mathematics Teaching
2	**I**	**I**	**PGM 423V**	**Structured Query Language**
3	**I**	**II**	**PGM 422V**	**Effective Teaching of Mathematics**
4	**I**	**II**	**PGM 424V**	**LaTeX – A Type Setting Program**
5	II	III	PGM 521V	Hacks and Tips for National Eligibility Test-I
6	**II**	**III**	**PGM 523V**	**Introduction to Fractal Geometry**
7	II	IV	PGM 522V	Hacks and Tips for National Eligibility Test-II
8	II	IV	PGM 524V	Automata Theory

PGM 423V   STRUCTURED QUERY LANGUAGE   2 Hrs (1T+1L) / 2 Cr

The objective of the course is to develop a basic understanding of database concepts.

On successful completion of the course the student will be able to:

i.   know about basic relational database management system and use the concept such as create, modify and delete commands
ii. read and write simple programs in oracle
iii. structures simple programs with conditionals and loops
iv. create compound functions and procedures and generate output
v.   identify the runtime errors using exception handling functions

Unit 1: Introduction to DBMS – Codd's Rule – data types – SQLPLUS – DDL – DML – TCC.   **(6 Hours)**

Unit 2: Programming Language in SQL: Declaration – Definition and execution.

(8 Hours)

Unit 3: Functions – Procedures – Structure   **(6 Hours)**

Unit 4: Packages – Cursors.   **(7 Hours)**

Unit 5: Exception Handling.   **(3 Hours)**

REFERENCE BOOKS:

1.   Loney and Koch, ORACLE 13 The complete Reference, Tata McGraw Hill Edition, 2012
2.   Urman, ORACLE PL/SQL programming, Tata McGraw Hill edition 2010.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2		2		4		
CO3		2	3			
CO4			3		5	
CO5			3			6

Mean: 3.1

PGM 422V   EFFECTIVE TEACHING OF MATHEMATICS   2Hrs/2Cr

The objective of the course is to expose the students to understand the effective way of teaching Mathematics and to create an enduring passion towards Mathematics teaching as an expert.

At the end of the course, students will be able to

    i.   understand the concept of Microteaching
    ii.   apply the appropriate skills in teaching Mathematics
    iii.   prepare the plan for their teaching
    iv.   develop the ability to use various resources to explore Mathematical knowledge
    v.   identifies the factors influencing the learning of Mathematics

Unit 1: Microteaching- Definition-Origin - Need –Procedure for Microteaching-Cycle of Operation-Uses of Microteaching.   **(6 Hours)**

Unit 2: Teaching Skills-Skill of Explanation-Skill of Questioning- Skill of using blackboard-Skill of Reinforcement-Skill of Stimulus Variation-Skill of Introduction.
                                                                                    (6 Hours)

Unit 3: Lesson Plan-Definition- Herbartian steps in preparing a lesson plan-Format of a typical lesson plan-Unit Plan.   **(6 Hours)**

Unit 4: Resources-Mathematics text books-Work books-Mathematics Library-Mathematics club-Mathematics laboratory-Field trips-Mathematical Websites-Handling hurdles in utilization of Resources.   **(6 Hours)**

Unit 5: Psychology of Learning Mathematics-Psychological aspects- Factors Influencing the Learning of Mathematics-Divergent thinking in Mathematics - Creative Thinking in Mathematics.   **(6 Hours)**

REFERENCE BOOKS:

1. Anice James, Teaching of Mathematics, Hyderabad, Neel kamal Publications Pvt. Ltd., 2010.
2. Anice James and JeyanthiAlwan, Skills and strategies of teaching Mathematics, New Delhi, Neel kamal Publications Pvt. Ltd., 2012.
3. Glenda Anthony, Margaret Walshaw, Effective Pedagogy in Mathematics, International academy of Education, Educational Practices series, 2019.
4. Aggarwal S.M, A course in teaching of Modern Mathematics, New Delhi, Dhanpat Rai Publishing Co,2001.
5. Sidhu K.S, The teaching of Mathematics, New Delhi, Sterling Publications, 2010.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3			
CO2			3			6
CO3				4		
CO4			3			6
CO5	1				5	

Mean: 3.88

PGM 424V　　　　**LaTeX – A TYPE SETTING PROGRAM**　　**2 Hrs (1T+1L)/ 2 Cr**

　　　　　The objective of the course is to facilitate the students to produce high-quality typesetting especially for mathematical text.

On successful completion of the course the student will be able to:

　i.　　typeset mathematical formulae using LaTeX
　ii.　　use the preamble of LaTeX file to define document class and layout options
　iii.　　define and use new commands within LaTeX
　iv.　　use BibTeX to maintain bibliographic information and to generate a bibliography for a particular document.
　v.　　create a research paper and book

Unit 1: Basics in LaTeX – Simple typesetting – Fonts – Type size – Document class - Page style – Page numbering – Parts of a document – Dividing a document.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(6 Hours)

Unit 2: Packages - Special characters – Delimiters –Matrices – Tables – Typesetting mathematics and theorems - Custom commands – New operators – Symbols – Graphics in LaTeX.　　　　　　　　　　　　　　　　　　　　　**(6 Hours)**

Unit 3: Table of contents – Index – Glossary – Footnotes, marginal notes and endnotes.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(6 Hours)
Unit 4: Bibliographic databases – To do cross references using LaTeX.　　**(6 Hours)**

Unit 5: Introduction to parts of a paper and book – Creating all the components for a paper and book.　　　　　　　　　　　　　　　　　　　　**(6 Hours)**

REFERENCE BOOKS:

　　1.LATEX Tutorials A PRIMER Indian TEX Users Group Trivandrum, India, 2003,

　　2.Tim Love, LATEX maths and graphics, May 11, 2012.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2			3			
CO3			3			
CO4				4		6
CO5					5	6

Mean: 3.75

PGM 523V   **INTRODUCTION TO FRACTAL GEOMETRY   2 Hrs / 2 Cr**

This course aims to learn   the concept of estimating the dimension of irregular shaped objects by fractal dimension and generate   attractors   by iterated function systems and its application in Nature, weather forecasting, Biomedical researches and image processing.

On the successful completion of the course, students will be able to
  i.   learn the basic concepts of Fractals and constructing Fractals mathematically
  ii.   identify fractals in Galaxies, eddies, trees
  iii. apply the concepts of estimation of Box Counting Dimension
  iv. demonstrate the concept of Iterative Function systems, attractor
  v. visualize the beauty of Fractals using software

Unit 1: The meaning and scope of the Theory of fractals – Fractals in Nature –Types of fractals –The classical fractals –cantor set, devil's staircase, Sierpinski triangle, Sierpinski carpet, Koch curve, and the Koch snowflake.   **(6 Hours)**

Unit 2: Galaxies and Eddies –Scaling and Non Scaling Fractals –Self mapping fractals - Random Fractals: Stratified Random Fractals- Fractional Brown Fractals. **(6 Hours)**

Unit 3: Introduction – Game of deleting and Replacing – Box counting Dimension- Hausdorff dimension.   **(6 Hours)**

Unit 4: The space of compact subsets of a Complete metric space – Contractions in a complete metric space–Affine iterative functions.   **(6 Hours)**

Unit 5: Generating attractors and fractals using Fractview, Chaospro2.0.   **(6 Hours)**

REFERENCE BOOKS:

  1. Gilbert Helmberg, Getting Acquainted with Fractals, Walter de Gruyter
     GmbH and Co, KG ,2007.

  2. Benoit. B. Mendelbrot , The Fractal Geometry of Nature, W. H.
     Freeman Company, 1983.

  3. Barnsley, Fractals everywhere, etc., Academic press.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2	3			
CO2		2	3		5	
CO3		2	3			
CO4		2		4	5	
CO5						6

Mean: 3.2

PGM 524V **AUTOMATA THEORY** **2Hrs / 2 Cr**

The objective of this course is to give an overview of the theoretical foundations of computer science from the perspective of formal languages, to illustrate finite state machines to solve problems in computing, and to explain the hierarchy of problems arising in the computer sciences.

At the end of the course, students will be able to

i. understand the notion of grammar and languages
ii. construct grammars for various languages and vice versa
iii. identify repeating words generated by the grammar and rectify it
iv. use basic concepts of formal languages of finite automata techniques
v. design finite automata for different regular expressions and languages

Unit 1: Alphabets and languages, Introduction to parsing, formal notion of a grammar, types of grammars and their corresponding Languages. **(6 Hours)**

Unit 2: Grammar to Language and Language to grammar. **(6 Hours)**

Unit 3: Derivation trees and ambiguity - Normal forms. **(6 Hours)**

Unit 4: Deterministic Finite Automata – Non-Deterministic Finite Automata – Conversion of DFSA to FSA. **(6 Hours)**

Unit 5: Finite State machines, Equivalence relations and Finite Automata. **(6 Hours)**

REFERENCE BOOKS:

1. John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, Introduction to Automata Theory Languages and Computation, 3rd Edition, Pearson Education, India, 2007.
2. Rani Siromoney, Formal languages and Automata Theory, Manohar printers, Tambaram, 1973.
3. Rakesh Dube, Adesh Pandey, Ritu Gupta, Discrete Structures and Automata Theory, Narosa Publishing House Pvt. Ltd., New Delhi, India, 2006.
4. A. Solairaju, M. Chandrasekhar, S. Ganesh, R. Krishnamoorthy, Discrete Mathematical Structures, Anuradha Agencies, Kumbakonam, 2003.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2			3			
CO3				4		6
CO4						6
CO5					5	

Mean: 3.86

POSTGRADUATE DEPARTMENT OF BOTANY

VALUE ADDED COURSES

w.e.f. 2020-2021

Semester	Course No.	Course Title	Hr.	Cr.
II	**PGB 422V**	**Nursery and Landscaping**	**2**	**2**
IV	**PGB 522V**	**Epidemiology and Molecular diagnostics**	**2**	**2**

PGB 422V   **NURSERY AND LANDSCAPING**   **2hrs/2 cr.**

To appraise students and impart knowledge on the essentials of growing plants under controlled and semi-controlled nursery conditions for designing and preparing landscapes for aesthetic presentation and cultivations. The course describes the organic approach of developing nursery for the preparation of planting material and propagules of economically important species. This course aims at encouraging students to develop skills and potential to take up entrepreneurial ventures and make the job-fit as they leave the portals of this college.

At the end of the course, the students will be able to,
 (i)   create projects and business ventures with techniques related to Nursery development,
 (ii)   modify contours and given or assigned area of land with various biotic and abiotic
        components into an serene and aesthetically appealing stands of decorative value
 (iii) Utilize and interpret their knowledge and rote memory into practical knowledge to
        become an entrepreneur,
 (iv) analyze the technical issues in constructing gardens and lawns evaluating costs,
        assets and liabilities, and
 (v)   encourage learners to turn self-employed or emerge as job providers catering to the
        community needs

Unit 1: Basics in Nursery Development   **(6hrs)**
Climate and material prerequisites for plant growth-soil and fertility- nursery site selection, lay out, design & development- media for growing plants (soil, sand, peat, sphagnum moss, vermiculite, perlite, pumice, cocopeat), nursery operations- equipments and tools - propagation structures (mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses) - rationale and scope for installing a nursery – Budgeting

Unit 2: Types of Nursery and Nursery Management   **(6hrs)**
Classification of Nursery (Based on Plants grown, structure, landscape, sale -Nurseries in horticultural, forestry and agricultural initiative) – Types (Vegetable, Fruit Plant, Ornamental, Medicinal and Aromatic plant nursery, Forestry, Agricultural crop) - materials and methods - rating irrigation - Nutrient, Pest, disease and weed management - harvesting, packing, storage and marketing -shipping- Hitech nurseries.

Unit 3: Nursery Raising   **(6hrs)**
Propagation of plants- Sexual propagation: Seed dormancy, Seed treatment-asexual propagation: Root, Stem, Leaf, cutting grafting, layering, budding- rhizome, bulb - potting, repotting-transplantation-hardening- features of Fruit plants, Vegetable (cauliflower, cabbage, brinjal, tomato), Flower plants (Rose, Coleus, Jasmine), Forest species (teak, casuarinas), Miscellaneous (plants with great economic value, rare and medicinal, essential oil plants, herbal plants) - Nurseries in India

Unit 4: Landscaping   **(6hrs)**
Gardening vs Landscaping - Definition and etymology of landscaping - Basic Principles and Parameters (Balance, Focalization, Simplicity, Rhythm and Line, Proportion, Unity) - land scape design - components (Hardscape and Softscape: Terraces, Walkways, benches, and gazebos,

Decks and patios, Garden ponds, Lighting, Fences, Trees, Shrubs, and Ground Cover, Mulch, Grass, or Ivy, lawn making, rockery, water garden) - Landscape Management.

Unit 5: **Landscaping in public places**   **(6hrs)**
Planning, designing, operations in landscape maintenance (high ways, bus terminus, airports, city roads and IT parks, Avenue - Balling and Burlapping, Planting herbaceous and shrubbery border, parks and botanical gardens – garden types - vertical and roof gardens.

Text Books

1. Edmond Musser & Andrews, (2008). Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi
2. Kumar N. (2017), Introduction to Horticulture, I.K. International Publishing houses ltd. 8th edition.
3. Kumar H.D. (2009), Handbook of horticulture, McMillan India Ltd. Pub. New Delhi

References
1. Nambison, KMP. (1992), Design Elements of Landscape Gardening Oxford & IBM
2. Sabina GT and Peter KV.2008, Ornamental Plants for Gardens, New India. Publ.Agency
3. Randhawa GS and Mukhopadhyay A. 1986. Floriculture in India. Allied Publ
4. Woodrow MG. (1999). Gardening in India. Biotech Books.
5. Lauria A and Victor HR. (2001). Floriculture - Fundamental and Practices Agrobios
6. Arora, JS. (1999). Introduction to ornamental horticulture. Kalyani Publishers, Ludhiana, India.
7. Trivedi, PP. (1983). Home Gardening. Statesman Press. New Delhi. India.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	5	5	5	4	4	5	28
CO2	5	5	5	4	4	5	28
CO3	5	5	5	4	4	5	28
CO4	5	5	5	4	4	5	28
CO5	5	5	5	4	4	5	28
	25	25	25	20	20	25	140
						140/30 = 4.6	

PGB 522V   EPIDEMIOLOGY AND MOLECULAR DIAGNOSTICS   2Hrs./2Cr.

This course provides an overview of disease incidence and spread in a population. Students will be introduced to the basic principles of epidemiology and recent trends in disease diagnosis. They will be able to comprehend the epidemic and pandemic disease outbreak, diagnosis and assist in prevention and spread of diseases.

At the end of the semester students will be able to:
 i.   acquire the basic principles and methods of epidemiology,
 ii. demonstrate skills needed to collect data and critically evaluate the information,
 iii. forecast the disease outbreak in advance and communicate the results to public health professionals and public.
 iv. design effective methods for screening of disease in the population
 v.   choose and validate appropriate molecular diagnostic techniques

Unit 1: Fundamentals of epidemiology   **(6hr)**
Epidemiology - public health science – scope, problems and events investigated –historical perceptive (Cholera, Irish famine) – terminologies – common communicable and non-communicable diseases (regional and national and global level) – domains of investigations – career paths to public health (CPP) –National Initiatives and Health Programs –organizations (WHO, CDC, NIE, UNICEF, ICMR).

Unit 2: Disease surveillance and data analysis   **(6hr)**
Epidemiology study design –descriptive and analytical approach –observational and experimental studies –data source –data collection–data analysis –frequency – distribution – determinants – causation – data interpretation – mathematics and computational thinking –Hill's criteria for causation – public health informatics.

Unit 3: Science of forecasting   **(6hr)**
Public health surveillance –analytic epidemiology – case study involving pandemic –disease outbreak –meteorological satellites –methods and types of forecasts –input data–variables – factors – time series – short /long term, point forecast, probabilistic forecast –accuracy –SIR model – plant disease forecasting model– infectious human disease modelling – machine learning – prediction.

Unit 4: Screening and disease diagnosis   **(6hr)**
Preventive methods –clinical and analytical tests –genetic and environmental epidemiology – screening tests – dichotomous test – time series analysis – validity of tests – reliability of tests – sensitivity of tests –trend analysis –incidence and prevalence –cohort studies – conventional vs molecular diagnosis– merits and demerits

Unit 5: Molecular diagnosis   **(6hr)**
Molecular methods –wet lab techniques and *in silico* assistance – serology test – immunoassay– Nucleic acid –PCR revolution– RT–PCR –DNA polymorphisms – SNPs–molecular detection and genotyping of microbes –DNA microarray chips –molecular epidemiology–molecular diagnostic kits–disease risk management– personalized medicine.

Text books

1. Park, K. (2015). Textbook of Preventive and Social Medicine. 3rdEdn. ISBN 9382219056.
2. Rothman, K. J. (2012). Epidemiology - An Introduction. 2 Edn. Oxford University Press, Inc., ISBN 9780199754557.
3. Willson, K. and Walker, J. (1994). Practical Biochemistry, Cambridge University Press, ISBN 0521799651.

References

1. Agrios, G. N. (2006). Plant Pathology. 5thEdn. Elseviers Publication, Academic press. New Delhi. ISBN 9788131206393.
2. Bonita, R., Beaglehole, R and Kjellstrom. T. (2006). Basic Epidemiology. 2Edn. World Health Organization, Switzerland. ISBN 9789241547079.
3. Bovbjerg, M. and Johnson, K. (2020). Foundations of Epidemiology. Oregon State University Press.
4. Buckingham, L and Flaws, M. L. (2007). Molecular diagnostics- Fundamentals, Methods, & Clinical Applications. F. A. Davis Company. ISBN 9780803616592.
5. Celentano, D and Szklo, M. (2019). Gordis Epidemiology, VIth Edn. Elsevier Publication. ISBN 9780323552295.
6. Dickinson, M. (2003). Molecular Plant Pathology. BIOS scientific Publishers, ISBN 0203503309.
7. Kranz, J and Rotem, J. (1988). Experimental Techniques in Plant Disease Epidemiology. Springer public. ISBN 9783642955365.

Mapping of course outcome with Bloom's Taxonomy

	K1 (Recall)	K2 (Understanding)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	5	5	4	4	3	3	24
CO2	4	4	4	4	5	3	24
CO3	3	4	4	4	4	5	24
CO4	3	3	4	4	4	5	23
CO5	3	4	4	4	5	5	25
Total	18	20	20	20	21	21	120
							120/30=4.0

POSTGRADUATE DEPARTMENT OF ECONOMICS

Value Added Courses
w.e.f. 2020-2021

SEM	Course No	Course Title	Hours	Credits
II	PEC 422V	Economics of Infrastructure	2	2
IV	PEC 522V	Economics for competitive Examinations	2	2

PEC 422V   **Economics of Infrastructure**   **2Hrs/2 Cr**

        To familiarize students on the role and importance of economic and social over heads in the overall economic development of the country

At the end of course, Students will be able to
        i. Understand the role and importance of Infrastructure
        ii. Analyzing the Birdseye view on various types of transport
        iii. Enriching the knowledge of energy sources and policies
        iv. Highlights the education and healthcare system in global to nation view.
        v. Acquiring the knowledge of information and communication technology of a country

Unit I: Introduction   **(6hrs)**
Meaning- Importance of infrastructure – Types –Infrastructure as a public good- social and physical infrastructure – Role of infrastructure and economic development

Unit II: TransportServices   **(6 hrs)**
Components of a transport system – Road- Rail-Air and Water transport- Port and Airports – Problems of transport sector – Transport services and economic development – Transport policy

Unit III: Energy Sector   **(5hrs)**
Dominance of energy in economic development: Factors determining demand for energy – energy conservation- sources of energy – Energy crisis in India –Optimal Energy policy in India

Unit IV: Education and Healthcare Services   **(6hrs)**
Role of education and economic development – Education systems- characteristics- problems and solutions –Meaning and types of healthcare services- Determinants of health status – Inequalities in healthcare

Unit V: Information and Communication Technology   **(7hrs)**
Telephone utilities – Significance of postal and Telephone services – Growth and problems of postal services - Computer- Internet Connectivity and services – Technology-Communication and Economic Development

Text Books
1. Anand and ShikhaGoel, (2010), Health Economics, AITBS, Publishers, New Delhi.
2. Misra and Puri, (2013), Indian Economy, Himalaya Publishing Co., Mumbai
3. L.N.Dash (2015), 'Economics of Infrastructure: Growth and Development ',Regal Publications, New Delhi
4. Dash L. N (2015) Infrastructure Development and the Indian Economy, Regal Publications, New Delhi
5. Dutt and Sundaram, (2016), 'Indian Economy', Himalaya Publishing House, New Delhi.

Reference Books
1. McMohan, W (1999), Education and Development: Measuring the Social Benefits, Oxford University Press, Oxford.

2. ICSSR (2006), Economics of Infrastructure, Vol.VI, New Delhi
3. Parikh, R K., (Ed) (2012), India Infrastructure Report-2012, Oxford University Press, New Delhi
4. National Council of Applied Economic Research (NCAER) (2016), India Infrastructure Report, Policy Implications for growth and Welfare, NCAER, New Delhi.

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analyzing)	K5 (Evaluating)	K6 (Creating)
CO1	1	2				
CO2			3	4		
CO3				4	5	
CO4				4	5	
CO5					5	6

Mean: 3.9

PEC522V   **Economics for Competitive Examinations**   **2 Hrs/2 Cr**

This course aims at making the students competent to attend competitive examination in Economics such as UPSC, TNPSC, SSC, Banking, NET and SLET. This course also intensively trains and guides the students for prospective careers in government and corporate sector by constantly updating the information.

At the end of the course, students will be able to

i.   Understand the nature and basic concepts of micro Economics and macro economics
ii. Analyze macroeconomic policies including fiscal and monetary policies of India
iii. Apply the contextual knowledge of economic growth and economic development to understand the behavior of financial and money markets.
iv. Explicitly communicate and exchange their ideas with regard to the behavior of Indian and World Economy
v.   Determine economic variables including inflation, unemployment, poverty, GDP, balance of payments using quantitative methods

Unit I: Micro and Macro Economics   **(6 hrs)**
Theory of Consumer Behaviour - Theory of Production and Costs - Factor Pricing under different market conditions - General Equilibrium Analysis - Efficiency Criteria: Pareto - Optimality, Kaldor – Hicks and Wealth Maximization - National Income - Determination of output and employment: Classical & Keynesian Approach - Consumption Function - Investment Function - Multiplier and Accelerator.

Unit II: Monetary and Fiscal Economics   **(6 hrs)**
Components of Money Supply - Instruments and Working of Monetary Policy - Non-banking Financial Institutions - Capital Market and it's Regulation - IS-LM Model Approach - Inflation and Phillips Curve Analysis - Business Cycles - Monetary Policy - Public Revenue Tax & Non-Tax Revenue - Incidence and Effects of Taxation - Public expenditure - Public Debt and its management - Public Budget and Budget Multiplier - Fiscal Policy - Centre-State Financial Relations and Finance Commissions of India

Unit III: Growth and Development   **(6 hrs)**
Economic Growth and Economic Development - Theories of Economic Development: Adam Smith, Ricardo, Marx, Schumpeter, Rostow, Balanced and Unbalanced growth, Big Push approach. - Models of Economic Growth: Harrod-Domar, Solow, Robinson, Kaldor - Indicators of Economic Development - Poverty and Inequalities – Concepts and Measurement - Social Sector Development: Health, Education, Gender.

Unit IV: Indian and International Economy   **(6 hrs)**
Economic Growth of Agriculture, industry and Services in India : Pattern of Growth, Major Challenges, Policy Responses Rural and Urban Development – Issues, Challenges & Policy Responses - Poverty, Inequality and Unemployment - Foreign Trade: Structure and Direction - Theories of International Trade - Balance of Payments:– Theories of Exchange Rate - Gains

from Trade, Terms of Trade, Trade Multiplier - Tariff and Non-Tariff Barriers to trade - Trade Policy Issues - IMF and World Bank - Public-Private Partnerships .

Unit V: Quantitative Methods   (6 hrs)

Probability Theory - Measures of Central tendency and dispersions, Correlation, Index Numbers - Hypothesis testing – Set theory - Differential Calculus - Linear Algebra – Matrices, - Input-Output Model, Linear Programming - Linear Regression Models – BLUE properties-Identification Problem - Simultaneous Equation Models –Time Series Analysis.

Text Books

1. Jhingan M.L. (2015), "International Economics", Virendra Publication Pvt. Ltd., New Delhi.
2. Rana and Verma, (2015), Macro Economic Analysis, Vishal Publications, Jalandhar.
3. Dutt and Sundharam (2018), Indian Economy, Sultan Chand Co, New Delhi.
4. Vinay Kumar G.B. (2019), Question Bank on Indian Economy- for UPSC and State Civil Services Examinations, Oxford University Press, New Delhi

References:

1. Gupta S. P, (2008), Statistical Methods, Sultan Chan & Sons, New Delhi.
2. Tyagi, B. P. (2011), Public Finance, Jai Prakahnath, Meerut.
3. Ahuja, H.L. (2012), Advanced Economic Theory, Chand and Company Limited, New Delhi.
4. Koustoyiannis. A, (2013), Modern Micro Economics, Mac Millan Press Limited, London.
5. Edward Shapiro, (2013), Galgotia Publications(P) Ltd., New Delhi
6. S.K.Misra and V.K. Puri (2016), Indian Economy, Himalaya Publishing House,New Delhi.

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analyzing)	K5 (Evaluating)	K6 (Creating)
CO1	1	2				
CO2			3	4		
CO3			3	4		
CO4				4	5	6
CO5				4	5	6

Mean: 3.9

POSTGRADUATE DEPARTMENT OF COMMERCE

Value Added Courses
w.e.f. 2020 – 2021

SEMESTER	SUBJECT CODE	SUBJECT TITLE	HOURS	CREDIT
II	PCO 422V	Business Planning and Project Management	2	2
IV	PCO 522V	GST in India	2	2

PCO 422V   BUSINESS PLANNING AND PROJECT MANAGEMENT   2 Hrs / 2 Cr

To provide insights into business planning and project management techniques and to equip the students in preparing the business projects.

At the end of the course, students will be able to
  i.   Identify suitable avenues to small scale business.
  ii.   Assess the strengths and weaknesses of the proposed business opportunities.
  iii. Determine the detailed business plan
  iv.   Analyze the organizational structure and project life cycle
  v.   Design project control systems

UNIT I
Business Planning: Introduction – Definition – Nature - Identifying Customers and Markets - Sources of Funding – Institutional Support: DIC, SIPCOT, KVIC, SIPO, SSIDCs, NIESBUD, EDI - Setting Up of Strategies and Tactics - Planning Devices - Limitations.
(6 Hours)

UNIT II
Project Organization: Definition-Functions- Organizational Structure-Merits and Limitations - Matrix Organization- Nature of Negotiation - Project Life Cycle
(6 Hours)

UNIT III
Business Plan Development: Process of Forecasting - Techniques of Forecasting – Feasibility Study – Meaning – Importance – Types. Business Planning- Strategic Planning - Tactical Planning – Preparation of Project Proposal
(6 Hours)

UNIT IV
Project Management: Meaning-Objectives-Features-Functions-Organizational Structure-Project Management Maturity-Project Selection-Model-Types
(6 Hours)

UNIT V
Project Control: Meaning-Fundamental Purposes - Design of Control Systems. Project Audit-Meaning- Essentials of an Audit -Varieties of Project Termination – Process of termination
(6 Hours)

REFERENCE BOOKS
  1. Vasant Desai, Project Management, Himalaya Publishing House , New Delhi , 2019
  2. Jack R. Meredith, Samuel J. Mantel Jr. , Project Management- A Managerial Approach, Wiley India Pvt. Ltd, New Delhi , 2015
  3. Ramasamy.T, Principles of Management, Himalaya Publishing House, New Delhi, 2016.

WEB REFERENCE
1. https://www.academia.edu/31586958/Subject_Name_Business_Planning_and_Project_Management_Course_Code_601

	Bloom's Taxonomy					
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		**2**				
CO2						**6**
CO3				**4**		
CO4				**4**		
CO5						**6**

Mean : 5.5

PCO 522V   **GST IN INDIA**   **2 Hrs / 2 Cr**

To impart and develop the knowledge among students about Goods and Services Tax in India.

At the end of the course, students will be able to

   i.   Discuss the importance of Goods and Services Tax in the Indian economy
  ii.   Describe the procedure for preparing E- Way Bill.
 iii.   Identify different techniques of credit reversal.
  iv.   Prepare Goods and Services Tax practitioner form
   v.   Create various tax invoices.

UNIT I
GST: Introduction - Dimensions of GST - Effect on Indian Economic Growth - Impacts of GST in Industry-wise, Sector-wise – GST Bill.

(6 Hours)
UNIT-II
 E-way Bill: Meaning- Procedure of E-way Billing-Validity - Documents-Blocking-Requirements –Transports: Road, Waterways, Airways, Railways - GST E Way Bill - 01 Form – Rejection and Cancellation of E-way Bill.

(6 Hours)
UNIT III
Input Tax Credit: Meaning - Eligibility for taking ITC- Blocked Credits- Methods of Reversal of Credits - Input Tax Credit in respect of goods sent for job work - Distribution of credit by Input Service Distribution (ISD)

(6 Hours)

UNIT IV
GST Practitioner: Meaning - Eligibility – Qualification – Registration - Provisions -Functions – Responsibilities - GST practitioner Forms (GST PCT).

(6 Hours)
UNIT V
Account and records under GST: E way bill-audit annual accounts- Reconciliation Statement of Annual Return and Annual Financial Statement - Tax Invoice: Meaning - Revised Invoice - Receipts Voucher- Payment Voucher- Credit Note - Debit Note - Bill of Supply - Reverse Charge - Refund Voucher - Delivery Challan.

(6 Hours)
REFERENCE BOOKS
   1. Datey.S, Indirect Taxes Law &Practice, Taxman's Publication, Revised Edition, New Delhi (as per latest AY)
   2. CA Brijesh Thakar, A Comprehensive Guide to Goods and Service Tax GST-2020, Vivan Publications , Bangalore , Revised Edition (as per latest AY).
   3. Reddy T.S. & Hariprasad Reddy Y, Business Taxation, Margham publications , Chennai, Revised Edition(as per latest AY)

WEB REFERENCE
1. https://idtc.icai.org/gst-topic-wise-study-material-list.html
2. https://ctd.tn.gov.in/documents/10184/925101/Overview+of+GST+-+In+English/d9931334-618e-4bdd-a9ef-52cb26ac1000?version=1.0

	Bloom's Taxonomy					
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		2				
CO2						6
CO3				4		
CO4						6
CO5						6

Mean: 4.8

DEPARTMENT OF
MASTER OF COMPUTER APPLICATIONS

Value Added Courses
w.e.f. 2020-2021

Sno	Course Code	Course Title	Hrs	Cr
1	MCA 421V	Essentials of Management	2	2
2	MCA 521V	Business Communication	2	2
3	MCA 621V	Data Science	2	2
4	**MCA 422V**	**Organizational Behaviour**	**2**	**2**
5	**MCA 522V**	**Accounting and Financial Management**	**2**	**2**

MCA 422V   **Organizational Behaviour**   **2hrs/2cr**

To impart conceptual Understanding to the students and to expose them to the development in these areas

At the end of the course, students will be able to
  i.   Understand the theory behind Organizational Behavior
  ii. Behaviour of group and individual personality.
  iii. Perceptions in an Organization.
  iv. Motivational Factors and the theory.
  v.   Understanding Organizational Changes.

UNIT 1: Introduction   **6hrs**
   Organizational Behaviour – Definition and Historical overview of the filed – Elton Mayo and the Hawthorne Studies.

UNIT 2: Group & Individual Behaviour   **6hrs**
   Group Behaviour – Dynamics of Group Formation – Types of Groups – Reasons for Group Formation. Individual Behaviour – personality – determinants of personality, theories of personality and measuring personality

UNIT 3: Perceptions   **6hrs**
   Perception – perceptual process, selective perception and social perception -Attitudes – nature and components attitudes, function of attitudes and changing attitude

UNIT 4: Motivation   **6hrs**
   Motivation – content and process theories of work motivation. Leadership – Leadership Styles – Difference Between a Leader and Manager - Stress – Definition -Causes of Stress - Managing Stress - Emotional Intelligence.

UNIT 5: Types of Change   **6hrs**
   Organizational Change –Types of Change - Process of Change, Resistance to Change and Overcoming Resistance to Change - Organizational Development – Interventions - Organizational Culture

References:
   1. Dr. Gaurav Sankalp, "OrganisationBehaviour",SahityaBhawan Publications, Agra, 2017
   2. Dr. InderJeet, Dr. Suman Solanki, "OrganisationBehaviour", Taxmann Publications, New Delhi, 2017.
   3. Fred Luthans,"Organization Behaviour", McGraw Hill International Edition, 12th Edition,2013.
   4. Stephen P.Robbins, "Organization Behaviour", 10th Edition, PHI, 2008.
   5. Koith Davis and John W. Newstron, "Human Behaviour at work", McGraw Hill International Edition, 2010.

Mapping of Course Outcomes with Bloom's Taxonomy

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2	1					
CO3			3			
CO4				4		
CO5					5	

Mean :3

MCA 522V   **Accounting and Financial Management**   **2hrs/2cr**

The aim of this course is to impart knowledge of basic principles of accountancy and the principles of financial management so as to enable the students to apply them in areas of computerization of accounting procedures and for data processing.

Upon completion of this course students will be able to:
1. Excel in the basic accounting principles from recording transactions to derivation of profit or loss.
2. Analyse and interpret Costing Concepts.
3. Understand Marginal Costing.
4. Prepare budgets for financial forecasting and budget control
5. Analysis of Fund and Cash flow

UNIT 1: Accounting Principles   **6hrs**
Accounting Principles, Concepts and conventions – Double entry book-keeping – Journal, Ledger, Trial balance, Final accounts of sole-trader concern and company -Analysis and interpretation of financial statements – Accounting ratios - Advantage and Limitations

UNIT 2: Costing Concepts   **6hrs**
Basic Cost concepts – Meaning of cost accounting – Objectives – Elements of Cost – Cost Sheet - Inventory management

UNIT 3: Marginal Costing   **6hrs**
Marginal costing – Meaning – Applications of marginal costing – Advantages and limitations – Break Even Analysis

UNIT 4: Budgetary Control   **6hrs**
Budgetary Control – Meaning – Merits and demerits – Difference between budget and forecast – Kinds of budgets

UNIT 5: Fund Flow   **6hrs**
Fund Flow and Cash Flow Analysis – Meaning and need – Preparation of Fund Flow and Cash Flow statements – Uses and limitations

Note: The students will be exposed to some accounting packages E.g. Tally

REFERENCE:
1. "T.S. Grewal's Double Entry Book Keeping",Sultan Chand and Sons, New Delhi, 2020.
2. M.N.Arora, "Cost Accounting: Principles & Practice, 12th Edition Kindle Edition", Vikas Publishing House Ltd., New Delhi 2019.
3. Prof. M.L. Agrawal, Dr. K.L. Gupta, "Cost Accounting", SahityaBhawan Publications. Agra. 2018
4. Dr. F.C. Sharma, Rachit Mittal, Dr. R.U. Singh, "Financial Management", SBPD Publications, Agra, 2019.

5. M.Y. Khan and P.K.Jain, "Financial Management", Tata McGraw Hill Publications, New Delhi, 2018.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3			
CO2				4		
CO3				4		
CO4			3			
CO5				4		

Mean : 3.6

POSTGRADUATE DEPARTMENT OF DATA SCIENCE

w.e.f. 2020-2021

Sem.	Course Code	Course Title	Hr.	Cr.	Mark
I	PDS 4501	Concepts of Data Science	5	5	75
	PDS 4503	Data Analytics (T+L)	6	5	75
	PDS 4505	Artificial Intelligence	5	5	75
	PDS 4607	Python Programming	5	6	80
	PDS 4409	Python Programming Lab	4	4	60
	PDS 4511	Probability and Statistics	5	5	75
	Total		**30**	**30**	**420**
II	PDS 4502	Data Mining and Warehousing	5	5	60
	PDS 4404	Big Data Analytics	4	4	60
	PDS 4406	Big Data Analytics Lab	4	4	80
	PDS 4408	Machine Learning	4	4	60
	PDS 4410	Computer Vision	4	4	80
	PDS 4512	Linear Algebra	5	5	80
	PDS XXXX	Elective I	4	4	60
	Total		**30**	**30**	**420**
III	**PDS 5501**	**Natural Language Processing (T + L)**	**5**	**5**	**60**
	PDS 5403	**Deep Learning**	**4**	**4**	**80**
	PDS 5405	**Reinforcement learning**	**4**	**4**	**80**
	PDS 5507	**Operations Research**	**5**	**5**	**80**
	PGE XXXX	Effective Communication	4	4	80
	PDS 5411	Elective II	4	4	60
	PDS 5413	Mini Project Lab	4	4	40
	Total		**30**	**30**	**480**
IV	PDS 5302	Industry Project		30	200
	Total			**30**	**200**
	GRAND TOTAL		**90**	**120**	**1520**

Elective - I

Sem.	Course Code	Course Title	Hr.	Cr.	Mark
II	PDS 4414	Digital Principles and Applications	4	4	60
II	PDS 4416	Social Media Analytics	4	4	60

Elective - II

Sem.	Course Code	Course Title	Hr.	Cr.	Mark
III	PDS 5415	Software Engineering	4	4	60
III	PDS 5417	Parallel and Distributed Computing	4	4	60

Value Added Courses

Sem.	Course Code	Course Title	Hr.	Cr.	Mark
I	PDS 421V	Data Analysis using Tableau	2	2	30
II	**PDS 422V**	**Analytics using Excel**	**2**	**2**	**30**
III	**PDS 521V**	**Mining using WEKA**	**2**	**2**	**30**

Program Specific Outcomes (PSOs)

On successful completion of the M.Sc program, Students will be able to

PSO1: Engage in continuous reflective learning in the context of technology and scientific advancement.

PSO 2: Identify the need and scope of the Interdisciplinary research.

PSO 3: Enhance research culture and upload the scientific integrity and Objectivity.

PSO 4: Understand the professional, ethical and Social Responsibilities.

PSO 5: Understand the importance and the judicious use of technology for the sustainability of the environment.

PSO 6: Enhance disciplinary competency, employability and leadership skills.

PSO 7: Apply knowledge of mathematics, computer science and   in practice.

PSO 8: Devise and conduct experiments, interpret data and provide well informed decisions.

PSO 9: Function professionally with ethical responsibility as an individual as well as in multidisciplinary teams with positive attitude.

PSO 10: Identify, critically analyse, formulate and develop computer applications

Program Outcomes

PO 1: Abstract Thinking: Ability to understand the abstract concepts that lead to various data science theories in Mathematics, Statistics and Computer Science.

PO 2: Problem Analysis and Design: Ability to identify analyze and design solutions for data science problems using fundamental principles of mathematics, statistics, computing sciences, and relevant domain disciplines.

PO 3: Modern Software Tool Usage: Acquire the skills in handling data science programming tools towards problem solving and solution analysis for domain specific problems.

PO 4: Innovation and Entrepreneurship: Produce innovative IT solutions and services based on global needs and trends.

PO 5: Societal and Environmental Concern: Utilize the data science theories for societal and environmental concerns.

PO 6: Professional Ethics: Understand and Commit to professional ethics and cyber regulations, responsibilities and norms of processional computing practices.

PO 7: Conduct Investigations and Complex Computing Problems: Use research based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.

PO 8: Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO 9: Applications in Multi-disciplinary domains: Understand the role of statistical approaches and apply the same to solve the real life problems in the fields of data science.

PO 10: Project Management: Apply the research based knowledge to analyze and solve advanced problems in data science.

Mapping of Courses Outcomes (COs) with Programme Specific Outcomes (PSOs)

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
PDS5501		✓		✓	✓		✓			✓
PDS5403		✓	✓		✓		✓			✓
PDS5405		✓	✓						✓	✓
PDS5507		✓		✓			✓			✓
PDS422V		✓	✓				✓	✓		✓
PDS521V							✓	✓		✓

Mapping of Program Specific Outcomes (PSOs) with Program outcomes (PO)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
PSO1	✓	✓		✓	✓		✓	✓		
PSO2	✓	✓		✓			✓			✓
PSO3	✓	✓			✓		✓			
PSO4		✓		✓			✓		✓	
PSO5		✓		✓	✓	✓			✓	
PSO6				✓				✓		
PSO7					✓	✓			✓	
PSO8										
PSO9	✓	✓		✓	✓					
PSO10	✓	✓		✓	✓				✓	✓

PDS 5501 **Natural Language Processing(T+L)** **5Hrs/5Cr.**

This course aims to understand the raw text processing and learning elements natural language processing and to conceive basics of knowledge sentence structure.

On the successful completion of the course, students will be able to

  i. Explain the approaches for ambiguity and uncertainty in NLP.
  ii. Understand the concepts of text processing and regular expressions.
  iii. Analyze the current methods for Automatic Tagging and segmentation.
  iv. Compare and contrast the Naïve Bayes Classifiers and Linguistic Patterns,
  v. Analyzing context free grammar,

Unit I : Introduction **15Hrs**

Histroy of NLP – Study of Human Languages – Ambiguity and uncertainty in Language – NLP Phases – Tokenised Text and pattern matching – Parts of Speech – Constituent structure.

Unit II: Processing Raw Text **15Hrs**

Accessing text from the web and from disk – Text processing at the lowest level – Text processing with Unicode – Regular Experssions – Normalizing text – Regular Expressions from Tokenizing text – segmentation.

Unit III :Categorizing and Tagging words **15Hrs**

Using a Tagger – Tagger Corpora – Mapping words to properties using python dictionaries – Automatic Tagging – N-Gram Tagging – Transformation Based Tagging.

Unit IV :Learning to classify text **15Hrs**

Supervised classification – Evaluation – decision Trees – Naïve Bayes Classifiers – Maximum Entropy classifier – Modeling Linguistic Patterns.

Unit V :Analyzing Sentence Structure **15Hrs**

Some Grammatical Dilemmas – Syntax – context Free Grammar – Parsing with context free Grammar – dependencies and dependency Grammar – Grammar Development.-NLP packages

Text Book

  1. Steven Bird, Ewan Klein , Edward Loper, "Natural Language Processing with Python ", O'Reilly Publisher, 2018

Reference Books:

1. Ian H. Witten and Eibe Frank, Mark A. Hall, "Data Mining: Practical Machine learning Tools and Techniques", Morgan Kaufmann, 2015
2. Christopher manning and HinrichSchutze, " Foundations of Statistical Natural Language Processing", MIT Press, 2008
3. Dan Jurafsky and James H Marting, " Speech and Language processing : "An Introduction to Natural Language Processing, Computatinal Linguistics and Speech Recognition", Prentice Hall Series, 2019.

Mapping of course outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4		2		4		
CO5			3			

Mean = 3.2

PDS 5403   **Deep Learning**   **4Hrs/4 Cr**

The course aims to provide an understanding of different types of Machine learning, Deep Architectures, including Convolution Networks, recurrent neural network and deep learning applications.

On the successful completion of the course, students will be able to

  i.   Understand the fundamental of machine learning basics
  ii. Explain the key concepts, issues and practices in deep leaerning
  iii. Explain the concept of Regularization for Deep Learning
  iv. Design and implement of Convolution Networks
  v.   identify the suitable applications in deep learning

Unit I : Machine Learning Basics   **8Hrs**
Learning Algorithms - Capacity, Overfitting and Underfitting - Hyperparameters and Validation Sets - Estimators, Bias and Variance - Maximum Likelihood Estimation – Bayesian Statistics.

Unit II : Introduction   **7 Hrs**

Deep Learning - Multi layer perception – convolution neural network – recurrent neural network – Architecture of the network – deep learning framework – development flow – Example.

Unit III: Regularization for Deep Learning   **10 Hrs**

Parameter Norm Penalties – Regularization and under constrained problem – Dataset Augmentation – Noise Robustness – Semi supervised learning – Multi task learning – Early Stopping.

Unit IV : Convolution Networks   **15Hrs**

Convolution operations – Motivation – pooling – variants of the basic convolution function - Structured Output – Data type - efficient convolution algorithm

Unit V :Applications   **10Hrs**

 Large-Scale Deep Learning – Computer Vision – Speech recognition – Natural Language Processing – other applications.-Case studies

Text Book

  1. Ian Goodfellow, YoshuaBengioand Aaron Courville, "Deep Learning ", MIT Press, 2018.

References

1. Aggarwal**,** Charu C., "Neural Network and Deep Learning", Springer, 2018
2. Michael Nielsen." Neural Network and deep learning", *Determination Press* , 2015
3. Francois Chollet, " Deep Learning with Python", Manning Publication, 2016

Mapping of course outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3			
CO2			3			
CO3		2				
CO4				4		
CO5			3			

Mean=3.0

PDS5405   **Reinforcement Learning**   **4Hrs./4Cr**

This course aims to understand the basics of reinforcement learning and it provides the knowledge of dynamic programming, planning and learning method. In Completion of the course the student will develop models using reinforcement learning methods.

On the successful completion of the course, students will be able to

   i.   Explain the basic concepts of reinforcement learning
  ii.   Describe the reinforcement learning methods
 iii.   Apply the dynamic programming and monte carlo methods to solve problem
  iv.   Analyze Search techniques for decision making
   v.   Construct a model to solve problem using reinforcement learning in a different applications

Unit 1: Introduction   **14Hrs**

Introduction to Reinforcement Learning, Elements of Reinforcement Learning -Limitations and Scope-Finite Markov Decision Processes - The Agent–Environment Interface -Goals and Rewards --Policies and Value Functions- Optimal Policies and Optimal Value Functions-Optimality and Approximation.

Unit II :Dynamic programming   **12Hrs**
Dynamic Programming- Policy Evaluation- Policy Improvement- Value Iteration, asynchronous DP- Efficiency of DP

Unit III :Monte Carlo Methods   **12Hrs**
Policy Evaluation- Policy Improvement- On-policy and off- policy Monte Carlo controls-Incremental implementation

Unit IV: Planning and Learning   **12Hrs**
Model based learning and planning- Integrated Planning-Acting-and Learning-When the Model Is Wrong - prioritized sweeping-Heuristic search.

Unit V:Application   **10Hrs**
TD-Gammon - Samuel's Checkers Player -Personalized Web Services-case studies

Text Book
   1. Richard S. Sutton and Andrew G. Barto.," Introduction to Reinforcement Learning", 2nd Edition, MIT Press. 2017

Reference Books

   1. CsabaSzepesvári, "Algorithms for Reinforcement Learning", Morgan & Claypool, 2013.
   2. Kevin Murphy , "Machine Learning - A Probabilistic Perspective" , MIT press, 2012.
   3. Christopher Bishop, "Pattern Recognition and Machine Learning", Springer, 2016.

4. Stuart Russell and Peter Norvig, "Artificial Intelligence: A Modern Approach", Prentice Hall, 2010.

Mapping of course outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		1				
CO2		2				
CO3					4	
CO4			3			
CO5						6

Mean =3.2

PDS 5507   **Operation Research**   **5hrs / 5Cr**

The objective of this course is to impart the knowledge in concepts and tools of Operations Research. The aim of this course is to understand mathematical models used in Operations Research and to apply these techniques constructively to make effective decisions.

At the end of this course, students will be able to

i. understand the theoretical background for Linear Programming Problem which culminates as Simplex method and exploit the concept of dual simplex method.
ii. compute optimum solution of both balanced and unbalanced transportation problem and identify the concept of assignment problem and its solutions.
iii. formulate different inventory models and identify formula to calculate different parameters.
iv. develop different Queuing models using suitable parameters.
v. solve simple problems of replacement models and demonstrate the usefulness of different types of simulation techniques.

Unit I: Linear Programming Problem: **(15 hrs)**
Introduction to operations research - Linear programming problem (L.P.P) – Mathematical formulation – Graphical solution– Solution to L.P.P by simplex method – Big-M method – Duality in Linear Programming – Dual Simplex method .

Unit II: Transportation and Assignment Problem: **(15 hrs)**
Definition – Non-traditional transportation models – Transportation Algorithm – Assignment Models.

Unit III: Inventory models: **(15 hrs)**
Deterministic Inventory Models – General Inventory model – Static Economic Order Quantity (EOQ) Models – Dynamic EOQ Models – Probabilistic Inventory Models.

Unit IV: Queuing Theory: **(15 hrs)**
Queuing theory – Queuing models – Basic characteristic of queuing system – Steady state solution of Markovian queuing models – M/M/1, M/M/C with limited waiting space, M/G/1 Queuing models.

Unit 5: Replacement Model and Simulation: **(15 hrs)**
Introduction – Replacement of Items Deteriorate – Replacement of items that fail suddenly – Mortality and Staffing Problems – Simulation: Monte Carlo Simulation – Types of Simulation – Elements of Discrete Event Simulation – Generation of Random Numbers – Mechanics of Discrete Simulation – Methods of Gathering Statistical Observations – Simulation Languages.

TEXT BOOKS:

1. H.A.Taha, Operations Research an introduction, Prentice Hall of India, 10th Edition, 2003.

   Unit 1: Chapter 1 (1.1, 1.2, 1.3); 2 (2.1, 2.2); 3 (3.3, 3.4(3.4.1)), 4(4.1,4.2, 4.4(4.4.1))

   Unit 2: Chapter 5 (5.1, 5.2, 5.3, 5.4)

   Unit 3: Chapter 13 (13.3, 13.4); 16(16.1, 16.2)

   Unit 4: Chapter18 (18.1, 18.2, 18.3, 18.5, 18.6, 18.7)

   Unit 5: Chapter 19 (19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7)

2. P. K. Gupta and D. S. Hira, Operations Research, Sultan Chand & Company Pvt. Ltd. 7th Edition, 2014.

   Unit 5: Chapter 11(11.1 - 11.4)

REFERENCE BOOKS:

1. F.S.Hillier and G.J.Liebermann, Introduction to Operations Research, McGraw Hill, 1995.
2. F.S.Hillier and G.J.Liebermann, Introduction to Mathematical Programming, McGraw Hill, 1995.
3. S.S.Rao, Optimization, Theory and Applications, Wiley Eastern,1977.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1		3			
CO2		2		4		
CO3	1				5	
CO4		2		4		
CO5				4		6

Mean: 3.2

PDS 422V   **Analytics using Excel**   **2Hrs./2cr.**

The aim of this course is to understand the basic of Data Analytics .It enables to apply Analytics using ExcelAdvance Formulas, Functions, Macros PivotTables , Visualize Data using various types of data representations .

At the end of the course, the students will be able to
  i. Understand the purpose of Data Analytics
  ii. Gain knowledge about basic Formulas and Functions ,in Excel
  iii. Apply the Advance Formula for data analytics .
  iv. Analyze data using Pivot table for Data Validation
  v. Express the various types of Charts in Excel

Unit I: Introduction   **5Hrs.**

Introduction to Data Analytics –Need of Analytics-Phases of Data Analytics- Exploring Data- Probability and Decision Making under Uncertainty.

Unit II: Excel Function   **5Hrs.**

Analytics Using Excel- Basic formula-If Conditions-If combined with Andand Or -SumIf Common Functions- Date and Time- Text functions-Functionality Using Ranges**.**

Unit III : **Advance Formula and Macros**   **7Hrs.**

Advance Formulas – Vlookup-Hlookup- Countif-Financial Functions- Sorting- Filter- Text to Column- Data Validation-Macros-Working with Macros - Recording a Macro - Playing and Deleting a Macro - Adding a Macro to the Quick Access Toolbar

Unit IV: Pivot Table   **7Hrs**

Pivot Table- Creating PivotTables- Manipulating a PivotTable- Using the PivotTable Toolbar- Changing Data Field- Properties-Displaying a PivotChart-Setting PivotTable Options- Adding Subtotals to PivotTables

Unit V: Data Visualization   **6Hrs.**
Data Visualization- Different types of chart, Formatting Chart Objects, Changing the Chart Type. Case study-Time sheet preparation-Sales Analysis-Customer service- Budget preparation chart.

Text Books
1. S. Christian Albright and Wayne L. Winston, Analytics: "Data Analysis and Decision Making", Sixth Edition, 2014.
2. John Walkenbach, Michael Alexander, and Richard Kusleika, "Excel 2019 Bible", John Wiley & Sons, 2019.

References

1. https://www.excel-easy.com/data-analysis.html
2. https://www.makeuseof.com/tag/data-analysis-excel/

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5				4		

Mean :3.2

PDS 521V   **Mining using WEKA**   **2Hrs/2Cr**

This course aims to understand the basic concepts and techniques of Data Mining using WEKA. It will develop skills of using weka software In Completion of the course the student will learn to work WEKA workbench for solving practical problems.

On the successful completion of the course, students will be able to
  i.   Explain the basics of WEKA and pre-processing technique.
  ii.   Describe the knowledge representation methods.
  iii. Apply classification technique to solve problem.
  iv.   Apply Association rules and clustering technique to solve problem.
  v.   Construct a data mining model to solve real world problem.

Unit I: Introduction   **6 Hrs**
WEKA- Introduction-Installation- Launching Explorer- loading data- file format- preprcessing technique-Applying filters

Unit II : Association Rule Mining   **6 Hrs**
 Introduction - Basic idea: item sets-Generating item sets and rules efficiently -loading data set-Assiciator- Mining association rules - Experiments with WEKA

Unit III: Classification   **6 Hrs**
Setting Test Data-Selecting Classifier-Visulaize the Result-Experiments with training and testing- Experiments with WEKA Classifier -ROC Curve

Unit IV: Clustering   **6Hrs**
Loading data sets-Clustering-Examining-output-Visualizing-Cluster-ApplyingHierarchical Clusters-Experiments with WEKA

Unit V: Data Mining Applications   **6 Hrs**
Mining real data -Preprocessing data from a real data- Applying various mining techniques- create a comprehensive and accurate model of the data. –Model Visualization

Text Book:
    1. Ian H. Witten and Eibe Frank, Mark A. Hall, "Data Mining: Practical Machine learning Tools and Techniques", second Edition Morgan Kaufmann, 2015
,
Reference Books:
    1. Han, J. and Kamber, M., "Data Mining: Concepts and Techniques", 3rd Edition, Morgan Kaufmann, 2006 .
    2. https://www.tutorialspoint.com/weka
    3. https://wekatutorial.com

Mapping of course outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4			3			
CO5						6

Mean =3.0

DEPARTMENT OF
MASTER OF BUSINESS ADMINISTRATION

MBA 4221   **FUNDAMENTALS OF COMPUTER APPLICATIONS**   **2 Hrs/2 Cr.**

This course helps the students to have basic knowledge on computer terminologies and also helps in creating professional word documents, excel spreadsheets, PowerPoint presentations using Microsoft Suite tools to transform basic business functions into meaningful results using fundamental and some advanced functions of Microsoft office tools in various real-time business scenarios.

At the end of the course the students will be able to
  i. Prepare business documents effectively using standard options available in MS Word.
  ii. Design the layouts and create business project reports effectively.
  iii. Apply MS Excel effectively for data entry and analysis.
  iv. Synchronize dynamic online data into excel which will be used for real-time analysis.
  v. Design professional business presentations using MS PowerPoint and other presentation tools.

Unit – I: MS Word Basics   (6 Hours)
Introduction to Computer Terminologies - The Screen and its elements – the office button – Quick Access – The View Buttons – Status Bar – Creating a new document – Templates - Writing and Simple Formatting – Customizing Styles – Table of Contents - Page Breaks – Mail Merge

Unit – II: MS Word Functions   (6 Hours)
Page Layout – Margins – Page Setup – Sections – Pager Header & Footer – Pictures & Graphics – Clip Art – Smart Art – Excel Charts – Comments – Proofing - Links

Unit – III: MS Excel Functions   (6 Hours)
Range Names – Lookup Functions – Index Function – Match Function – Text Function – Date Function – IF Statements – Time Functions – The Paste Special Command, Hiding and Freeze functions

Unit – IV: Data Handling on MS Excel   (6 Hours)
Importing Data from a Text File or Document – Importing Data from the Internet – Validating Data – Summarizing Data by Using Histograms - Summarizing Data by Using Descriptive Statistics – Using PivotTables and Slicers to Describe Data

Unit – V: Functions of MS PowerPoint   (6 Hours)
Begin a new presentation using a Template – Customizing Slide Format and Colour Theme – Adding Content in Presentation – Text – Image – Charts – Tables – Refining the Presentation – Animations – Latest Presentation tools

Text Book:
1. TorbenLageFrandsen, Microsoft Word 2007 TorbenLageFrandsen&Ventus Publishing ApS 2010
2. Wayne L. Winston, Microsoft Excel 2010: Data Analysis and Business Modelling, Microsoft Press, 2011
3. TorbenLageFrandsen, Microsoft Office PowerPoint 2007 TorbenLageFrandsen&Ventus Publishing ApS 2011

Mapping Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

Course Outcomes (COs)	Program Specific Outcome (PSOs)									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	X	X			X					
CO2				X	X					
CO3				X	X				X	X
CO4				X	X	X				
CO5		X	X	X						

Mapping of course outcomes with Bloom's Taxonomy

	Skill Levels					
	K 1	K 2	K 3	K 4	K 5	K 6
CO1		2		4		
CO2			3	4		
CO3				4	5	
CO4				4	5	
CO5				4		

Mean: 3.9

MBA 4222   BUSINESS CASE ANALYSIS (Practical)   2 Hrs / 2 Cr.

This self study course aims at **d**eveloping anin depth understanding of the issues on business operations and management based on case study analysis in a classroom setup with one-to-one discussion, group discussion, interaction, presentation and reporting.

At the end of the course, the students will be able to
  i.   understandthe experiences of leading Corporates in managing their firms .
  ii.   Examine the functional issuesof managing a business.
  iii. Differentiate the core issues and peripheral issues of business firms
  iv.   Analyse the problems and evolve solutions in managing a firm.
  v.   Appraise of the internal and external factors affecting business.

Unit 1: Operation Management Cases   **(6 Hours)**

Unit 2: Human Resource Management Cases   **(6 Hours)**

Unit 3: Marketing Management Cases   **(6 Hours)**

Unit 4: Financial Management Cases   **(6 Hours)**

Unit 5: International Business Management Cases   **(6 Hours)**

Text Books:
  1. ICFAI, Case Studies in Business Strategy, Vol. IV, The Institute of Charted Financial Analysis of India, Hyderabad, 2005.
  2. ICFAI, Case Studies in Human Resource Management, Vol.II, The Institute of Charted Financial Analysis of India, Hyderabad, 2004.
  3. ICFAI, Case Studies in Sales & Distribution Management, The Institute of Charted Financial Analysis of India, Hyderabad, 2006.

References:

  1. UppendraKachru , Production and Operation Management : Text and Cases, , Excel Books, 2013.
  2. Brown, Saunders and Bruce Bushkirk, Cases i Direct Markting, NTC Business Books, , USA, 2005
  3. Srinivasan R, Case Studies in Marketing: The Indian Context, Prentice Hall of India Private Limited, New Delhi, 2006.
  4. Krishnamacharyulu CSG and Lalitha Ramakrishnan, Cases in Rural Marketing,: An Integrated Approach, Pearson Education Pvt. Ltd., New Delhi, 2003.
  5. Etzel, Walker, Stanton and Ajay Pandit, Marketing : Concepts and Cases, Tata Mc-Graw Hill, New Delhi, 2006.
  6. Neelamegham, Marketing in India: Cases and Readings, Vikas Publishing House Pvt,. Ltd, New Delhi, 2007.

7. Aswathappa K, Human Resource Management: Text and Cases, Tata Mc-Graw Hill, New Delhi, 2012
8. Pandey I M and Ramesh Paat, Cases in Financial Management, Tata Mc-Graw Hill, New Delhi, 2011.
9. Francis Cherunilam, International Business: Text and Cases, PHI Learing Private Limited, New Delhi, 2011.
10. Michael E Porteer, Cases in Competitive Strategy, The Free Press, New York, 1983.
11. John A Quiich, Leong, Ang and Tan, Cases in Marketing and Strategy: An Asia Pacific Perspective, Asia Pacific Marketing Federation and Prentice Hall, Singapore,1996.

Mapping Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

Course Outcomes (COs)	Program Specific Outcome (PSOs)									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	X		X							X
CO2			X	X						X
CO3				X			X			X
CO4				X			X			X
CO5		X		X			X			

Mapping of course outcomes with Bloom's Taxonomy

Course Outcome (COs)	Skill Levels					
	K 1	K 2	K 3	K 4	K 5	K 6
CO1				4	5	6
CO2				4	5	6
CO3				4	5	6
CO4				4	5	6
CO5				4	5	6

Mean : 5.0

Value Added Courses
w.e.f. 2020-2021

SEMESTER	COURSE NO.	COURSE TITLE	HOURS / WEEK	Credit
I	MBA 421V	Executive Communication	2	2
II	**MBA 422V**	**Customer Relationship Management**	**2**	**2**
III	MBA 521V	Capital Market	2	2

MBA 422V   CUSTOMER RELATIONSHIP MANAGEMENT   2 Hrs / 2 Cr.

To make students understand the organizational need, benefits and process of creating long-term value for individual customers. Studentsshouldknow the need and importance of maintaining a good customer relationship.

At the end of the course, the students will be able to
i.   Understand the basic concepts of CRM
ii.   Identify the various aspects of CRM
iii.   Apply e-CRM technologies in organization
iv.   Select and apply CRM tools and techniques in various business sector
v.   Design CRM strategies by understanding customers' preferences

Unit 1: Overviewof CRM   (6 Hours)
        Meaning and Definition of CRM-Importance of CRM-Components of CRM- Features of Good CRM Programme -CRM systems: Selection and Implementation - Role of CRM in Improving Customer Relationship- Types of CRM - Advantages of CRM.

Unit 2:Understanding Customers   (6 Hours)
        CustomerLifeCycle - Customer Satisfaction - Customer Retention ManagementStrategies - Customer Churn and Reasons - CustomerRecall Strategies - Customer Experience Management-Customer Life Time Value.

Unit 3: CRM and Business Value   (6 Hours)
        Customer Loyalty and Profitability - Collecting Customer Data - Scoring the Customers - Market Basket Analysis - Cross-Selling and Up-Selling.

Unit 4: Electronic CRM and Applications   (6 Hours)
        e-CRMin Business: Features of e-CRM-Need for e-CRM- Technologies of e-CRM - Corporate Role of e-CRM- Advantages of e-CRM-Major Trends in e-CRM -Customer Care Management- Call Centre Technologies.

Unit 5: Application Dynamics of CRM in various sectors   (6Hours)
        Role of CRM: Banking and Insurance Sector- Health Care Sector - Aviation Industry-Retail Industry-Telecom Industry- Tourism Industry- Hotel Industry.

Text Books:
1. S. Shanmugasundaram, Customer Relationship Management, Prentice Hall of India Private Limited, New Delhi, 2008.
2.. Alok Kumar Rai, Customer Relationship Management Concept & Cases, Prentice Hall of India Private Limited, New Delhi. 2011.
Reference Books:
1.Kaushik Mukherjee, Customer Relationship Management, Prentice Hall of India Private Limited, New Delhi, 2008.
2. V. Kumar & Werner J., Customer Relationship Management, Willey India, 2008.
3. Balasubramaniyan, K., Essence of Customer Relationship Management, Learn Tech Press.

Mapping Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

Course Outcomes (COs)	Program Specific Outcome (PSOs)									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	X			X						
CO2	X			X					X	X
CO3	X			X				X	X	X
CO4	X		X	X				X	X	
CO5	X			X				X	X	X

Mapping of course outcomes with Bloom's Taxonomy

	Skill Levels					
	K 1	K 2	K 3	K 4	K 5	K 6
CO1	1				5	
CO2				4	5	
CO3	1	2	3			6
CO4			3	4	5	
CO5	1				5	6

Mean :3.50

DEPARTMENT OF
MASTER OF SOCIAL WORK

Sem	Course Code	COURSE TITLE	HOURS	CREDITS	MARKS
I	MSW 4411	Fundamentals of Professional Social Work	6	4	80
	MSW 4413	Sociology for Social Work	5	4	80
	MSW 4415	Psychology for Social work	5	4	80
	MSW 4417	Social Policy, Legislation and Welfare Administration	5	4	80
	MSW 4209	Life Skill Education	4	2	40
	MSW 4319	Field work – Observation Visits	5	3	60
II	MSW 4412	Social Case Work Practice	5	4	80
	MSW 4414	Social Group work Practice	5	4	80
	MSW 4416	Community Organization and Social Action	5	4	80
	MSW 4418	Social Research and Statistics	6	4	80
	MSW 4210	IT Skills for Social Work	4	2	40
	MSW 4320	Preparatory Field Work – Block Placement	5	3	60
III	MSW 5411	**Criminal Justice and Social Work Practice (Common Paper 1)**	**5**	**4**	**80**
	MSW 5417	**Disaster Management and Social Work Intervention (Common Paper 2)**	**5**	**4**	**80**
	Specialization - I : MEDICAL AND PSYCHIATRIC SOCIAL WORK				
	MSW 5421	**Health and Health Care Systems**	**5**	**4**	**80**
	MSW 5423	**Mental Health & Social Work Intervention**	**5**	**4**	**80**
	MSW 5429	**Disability Management**	**5**	**4**	**80**
	MSW 5427	**Field Work for Medical & Psychiatry -I (Block Placement)**	**5**	**4**	**80**
	Specialization - II :DEVELOPMENT MANAGEMENT				
	MSW 5441	**Rural Development in India**	**5**	**4**	**80**
	MSW 5443	**Livelihood and Social Enterprises**	**5**	**4**	**80**
	MSW 5445	**NGO Management**	**5**	**4**	**80**
	MSW 5447	**Field Work for Development Management -I (Block Placement)**	**5**	**4**	**80**
	Specialization - III :HUMAN RESOURCE MANAGEMENT				
	MSW 5461	**Fundamentals in Human Resource Management**	**5**	**4**	**80**

	MSW 5463	**Industrial Relations and Labour Legislations**	**5**	**4**	**80**
	MSW 5465	**Organization Behaviour**	**5**	**4**	**80**
	MSW 5467	**Field Work for Human Resource Management -I (Block Placement)**	**5**	**4**	**80**
IV	**MSW 5412**	**Project**	**5**	**4**	**80**
	MSW 5414	**Media and Social Work**	**5**	**4**	**80**
Specialization - I :MEDICAL AND PSYCHIATRIC SOCIAL WORK
	MSW 5420	**Medical Social Work**	**5**	**4**	**80**
	MSW 5424	**Psychiatric Social Work**	**5**	**4**	**80**
	MSW 5426	**Hospital Management**	**5**	**4**	**80**
	MSW 5428	**Field Work for Medical & Psychiatry -II (Block Placement)**	**5**	**4**	**80**
Specialization - II :DEVELOPMENT MANAGEMENT
	MSW 5442	**Social Exclusion and Inclusion In India**	**5**	**4**	**80**
	MSW 5444	**Urban Community Development In India**	**5**	**4**	**80**
	MSW 5446	**Ecology and Social Work Practices**	**5**	**4**	**80**
	MSW 5448	**Field Work for Development Management -II (Block Placement)**	**5**	**4**	**80**
Specialization - III :HUMAN RESOURCE MANAGEMENT
	MSW 5462	**Human Resource Development**	**5**	**4**	**80**
	MSW 5464	**Organization Change & Development**	**5**	**4**	**80**
	MSW 5466	**Employee Compensation and Wage Administration**	**5**	**4**	**80**
	MSW 5468	**Field Work for Human Resource Management -II (Block Placement)**	**5**	**4**	**80**

Value Added Courses
w.e.f 2020-2021

Semester	Course No.	COURSE TITLE	Hrs/wk	Credits
Semester 1	MSW 421V	Basic Counselling	2	2
Semester 2	**MSW 422V**	**Advanced Counselling**	**2**	**2**
Semester 3	MSW 521V	Tribal Community Development	2	2
Semester 4	**MSW 522V**	**Employability Skills**	**2**	**2**

Semester III   Credit*: 4*
Paper – 1   *Hr/Wk: 5*
MSW 5411 CRIMINAL JUSTICE AND SOCIAL WORK PRACTICE
Course description:
        This course is aimed at providing knowledge on Criminal Justice System and provides the basis for helping the victims of crime through social legislations in India. Content of the course shall touch upon various aspects of Crime, Criminology and Victimology. It will specially throw light on the Social Work Interventions in Criminal Justice Systems.
Course outcome:
At the end of the course the students will be able to:
  i.   Identify and recognize the concept in Crime and Criminology
  ii. Articulate the nuances of Criminal Justice System in India
  iii. Relate and Correlate the appropriate components of Criminal Justice System
  iv. Comply with the concept of Victimology and Victimization to help the victims.
  v.   Advocate and lobby with stakeholders incorporating the social work practices to prevent, reform and rehabilitate the crime victims

Unit I: Crime & Criminology   **(Hour: 18)**
Crime: Meaning, Definition, Nature, Elements, Causes of Crime, Approaches: Social, Psychological and Legal– Classification of Crimes - Classification of Criminals; **Criminology**: Meaning, Definition, Scope, relationship with other Social Sciences, Historical Perspectives

Unit II: Criminal Justice System (CJS)   **(Hour: 18)**
Criminal Justice System: Meaning, Concept, Purpose and Social Relevance; Structure of Criminal Justice System in India –Historical Perspectives of CJS: National and International- Criminal Justice Process.

Unit III: Components of CJS   **(Hour: 18)**
I. **Police System**: Objectives – Functions - Police System in India: Organization and Structure; Procedures: FIR, Custodial Procedures; – Approaches in Policing – Police Image;
II. **Judicial System**: Importance – Structure and Functions; Fundamental Elements in Indian Judicial Systems;Alternative Dispute Resolution System (ADRS): Arbitration, Mediation and Counselling, LokAdalats, Mahila courts, Legal Aid Systems, Restorative Justice System;
III. **Prison System**: Meaning, Functions, Objectives and Scope; Prison Organization in India; Types of Prison and Correctional Institutions; Approaches in Prison: Reformation and Rehabilitation. UN Standard minimum rules for treatment of prisoners

Unit IV: Victim Assistance and Victimology   **(Hour: 18)**
Victimology: Concept, Definition; Victim and Victimization –Types and Forms of Victimization; Victim Prevention Services: Assisting victims during crime investigation and trial- Legal aid to victims of crime, Counselling, guidance and rehabilitation – Victim Assistance Programmes in India -Role of citizens and voluntary organizations

Unit V: Human Rights &Social Work Practice (Hour: 18)
Human Rights: Human Rights in the context of crime and punishment -Agencies to protect Human Rights - National and State Human Rights Commission; Application of Social Work interventions: with under-trials, prisoners, rehabilitation of prisoners, working with families of prisoners, Juvenile Delinquency, Women, Transgender; Social Work measures with the Police, the Judiciary and the prison staff - Job stress, burn out and other issues.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Ram, Abuja, 2007, Criminology, Rawat Publications, New Delhi.
- Paranjape N.V, 2012 Criminology and Penology with Victimology, Central Law Publications, Allahabad. .

References:
- Mehrajud-Din, Mir, 1984, Crime and Criminal Justice System in India, Deep and Deep Publications, New Delhi
- Gupta, AnandSwarup, 2007, Crime and Police in India, Sahitya Bhavan, Agra.
- Shweta, 2009, Crime, Justice and Society MD Publications
- Basu Duraga Das, 2005, Introduction to Constitution of India. 19th Edu.,Wadhwaand Company Law Publishers**.**
- Banerjee,D, 2005, Central Police Organizations Part I and Part II, Allied Publishers Pvt. Ltd.
- Constitution of India. 1991. New Delhi: Govt. of India.
- Nair, T.Krishanan (ed): Social work Education and Development of Weaker Sections. Madras: Association of Schools of Social Work in India.
- P Chauhan, 2004, Human Rights: Promotion and Protection, Anmol Publications Pvt. Ltd.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (KNOWLEDGE to CREATE)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2			3			
CO3				4		
CO4				4		
CO5						6

Mean value: 1+3+4+4+6 = 18/5 =4

Semester III   Credit*: 4*
Paper - 2   *Hr /wk: 5*

MSW 5417 DISASTER MANAGEMENT AND SOCIAL WORK INTERVENTION
Course Description:
            This course is designed to facilitate the understanding and thereby to enhance the professional skill of the social workers to deal the emergency situations very effectively**.**

Course Outcome:
At the end of the course the students will be able to:
        i. Identify and classify the types of disasters and models of disaster management.
        ii. Apply and prepare programs related to disaster prevention and preparedness.
        iii. Determine and diagnose the disaster response activity, recovery plan and rehabilitation.
        iv. Evaluate the impact of disaster on various determinants.
        v. Identify and apply the relevant technologies during disaster cycles.

UNIT I: A Perspective of Catastrophes and Disasters   **(Hour: 18)**
Disaster- Meaning and Concept, related concepts: Risk, Hazard, vulnerability. Types of Disasters: Famine, Floods, Tsunami, Cyclone, Hurricanes, Earthquake, Volcanoes, Landslides, Snow Avalanche, Fire, Forest Fire, Epidemics, Warfare, Community/Ethnic clashes; Models of disaster - crunch model and release model; Disaster Management: Meaning – Meaning – Definition – Objective & Scope - Disaster Management Cycle.

UNIT II: Disaster Prediction and Forecasts   **(Hour: 18)**
Disaster prevention: Vulnerability Assessment, disaster Risk Reduction, Hazard Assessment, emergency Operation Plan, Capacity assessment; Disaster preparedness :Public Awareness and education- community based Approach, Stakeholders' Roles and Responsibilities; Disaster management Risk factors: Challenges and constraints.

UNIT III: Dealing with Emergency   **(Hour: 18)**
Response: Introduction- Disaster Response Activities- Traditional and Modern methods, Disaster Recovery: Introduction - The Recovery Plan- Disasters as opportunities for Developmental Initiatives-Rehabilitation and Reconstruction; Risks involved in response and recovery.

UNIT IV: Impact of Disasters   **(Hour: 18)**
Disaster associated Health Issues - Emergency Health services and communicable diseases; Physical Impact types - Infrastructure, Transportation, Communication, Electricity, Water, security; Social Impact: Social impact - Economic Impact, Emotional Impact- Trauma and Counseling; NGO's in Disaster Management and relief –Role of National and International donor agencies; Animals in Disaster;

UNIT V: Role of Technology in Disaster Management   **(Hour: 18)**
Emergency Management Systems (EMS) -Introduction – Uses- Types : Geographic Information System (GIS)- Advantages- Global Positioning System (GPS) and Role of EMS, GIS, GPS in Disaster Management Cycle, Role of social work professionals at different levels.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, demonstrations, group activity, interactive debate and discussions.

Text Books:
- Murthy.D.B.N (2007) Disaster Management: Text and Case Studies, Deep and Deep Publishers, New Delhi

References:
- Anderson.M & Woodrow.P (1998) Development Strategies in times of Disaster, ITDG Publishing, London
- Deshpande.B.G (1996) Earthquakes –animals and Man, JAC Trust, Gurgaon
- Hejimans. A & Victoria. L (2001) Citizenry- Based and Development- Oriented Disaster Response, centre for Disaster Preparedness, Philipines
- Tearfund (2004) Development and Risk Reduction in the Indian state of Andhra Pradesh: A Case
- Abarqquez. I & Murshed. Z (2004) Community- Based Disaster Risk Management: Field Practitioners' Handbook, Asian Disaster Preparedness Centre, New Delhi

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3				4		
CO4					5	
CO5					5	

Mean value: 1+2+4+5+5 = 17/5=3

Semester III   Credit: *4*
Paper -3   *Hr /wk: 5*

MSW 5421 HEALTH AND HEALTH CARE SYSTEMS

Course Description:
        The aim of this course is to give the students the basic knowledge of health and impress upon them the need to advocate for personal hygiene. Efforts will be taken to orient the learners to the various concepts about health and disease. Topics covered would help the students to rationalize the initiatives at the local, national and international level through organizations, governmental and non-governmental agencies in the delivery of health protection through special projects and schemes. It also ensures the physical and physiological well-being of the individual and masses. Technically the course work would also allude to concepts of Clinical & Social Epidemiology, Sociology for diseases and Medical Anthropology.

Course Outcome: At the end of the course the students will be able to:
i. Identify and infer the various indicators and determinants of health.
ii. Distinguish and sensitize the disease and its types.
iii. Discover the psycho social factors influencing health.
iv. Associate and interpret the structures and functions of health care delivery systems
v. Connect and Extend the knowledge on public health in the global context

Unit I: Health   **(Hour: 18)**
Health – Concepts, Definition, Indicators and Dimensions of Health, Determinants of Health - Fertility/ Mortality/ Nupitality/ Morbidity. Health Education – Principles & Methods, Role of Social Worker in Community setting.

Unit II: Health anomaly: **(Hour: 18)**
Nutritional Deficiency, Pathogens (bacteria, viruses, fungi, protozoa), Communicable vs Non-Communicable, Acute vs Chronic disease. Understanding the meaning, differences between Disease, Sickness and Illness. Role of Social Worker in understanding Poverty, Undernourishment and diseases.

Unit III: Health and Social Factors: **(Hour: 18)**
Social factors affecting health, Health Disparities, Health and Social Consciousness, Physical, Psychological, Psychosocial and Environmental issues affecting Health. Emerging Health Challenges In India.

Unit IV: Health Care System: **(Hour: 18)**
Health care system – Primary, Secondary, Tertiary. Health system: Private and Public Health. Commercial Practices and Politics in Health care. Importance of Health Insurance. National and state level Health Policies.

Unit V: Global Health: **(Hour: 18)**
Global Health Scenario. Contribution of WHO to world Health. Challenges and Milestones in Achieving Millennium Development Goal &Sustainable Development Goal. Global issues and challenges in promoting health .

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3					5	
CO4			3			
CO5					5	

Mean value: 1+2+3+5+5= 16/5= 3

Semester III   Credit*: 4*
Paper –4   *Hr/Wk: 5*
MSW 5423 MENTAL HEALTH & SOCIAL WORK INTERVENTION
Course Description:
      The theme of the course will be to search for reasons which determine the stability of mind, thought and action. To help the students gain a broader understanding and working knowledge in the field of Mental Health, aspects of diet, habits, customs and traditions that influence on the cognitive and emotive upkeep will be discussed. Major emphasis will be on factors such as personal, family and other societal determinants which cause distraught situations as matter of conflict of interest. In analyzing the emotional breakdown and mental disorders of individuals, aspects of delinquency, congenital disease, and habitual aberrations leading to extreme behavior will be covered.

Course Outcome:
At the end of the course the students will be able to:
i. Classify mental health types and its models.
ii. Distinguish the mental disorders and its types.
iii. Appraise the impact of mental disorders.
iv. Interpret the cultural belief and treatment associated with mental health.
v. Demonstrate community mental health programmes independently.

Unit I: Mental Health and Models   **(Hour: 18)**
Mental Health: Concepts, Definitions, Scope- Mental Illness -Meaning, Mental Disorders: Concept -Types, Causes: biological –psychological –sociological –psychosocial;. Myths and misconceptions of MI. Models of Mental Health – Biomedical – Psychosocial; Determinants: Prevention, Protection and Promotion; Relevance of Social Work to Mental Health.

Unit II: Neuroses and Psychosis   **(Hour:18)**
Neurosis- Anxiety, depression, OCD, convulsive disorder, phobia related. Psychosis: Functional – Affective – Organic Disorder

Unit III: Psychosomatic Disorder   **(Hour:18)**
Psychosomatic Disorder: Meaning, Impacts: Alcoholism, Substance abuse, Sexual Disorder, Epilepsy, MR, Psychological problem among children, adolescent, elderly

Unit IV: Cultural belief and Treatment   **(Hour:18)**
Magnitude and burden of MD , promoting MH, Preventing and managing MI , Gap between MD and resources, MHGAP global health programme- Common cultural belief – Methods of Treatment – Physical-Psycho Social-Indigenous.

Unit V: Community Mental Health   **(Hour:18)**
Community Mental Health: Concepts, definition, principles, practices. Models of Community Mental Health; Mental Health Act (2017), District Mental Health Programme, School Mental Health Programme.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:

- Comprehensive Textbook of Psychiatry, (third ed.) Volumes 1 to 3, Williams and Wilkins, Baltimore / London.
- Kaplan, H.I. Freedom A.M. and Sadock B.J. (1980) Diagnostic criterion from DSM-IV American psychiatric assn.

Reference:

- Bellack A.S. (1984) Schizophrenia, treatment Management in Adult Bailliere Tindal, London.
- Berrios, G.E. & Dawson J.H. (1983) Treatment and Management in Adult Bailliere Tindal, London.
- Kappur, M Sheppard. Ralph and Renate (Eds) (1993)
- Mane P & Gandevia K. (Eds.) (1993) Mental Health in India Issues and Concerns; Tata Institute of Social Sciences, Mumbai.
- World Health Organization Geneva (1992) The ICD 10 Classification of Mental and Behavioral disorders. Clinical Description and Diagnostic Guidelines; Oxford University Press.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean value: 2+2+3+4+5= 17/5= 3

Semester III   Credit: *4*
Paper –5   *Hr/Wk: 5*

MSW 5429 DISABILITY MANAGEMENT

Course Description:

The vulnerability of human to get carried away with the so called indicators of growth and prosperity makes them pay more in terms of health and happiness. Though the rapid strides of progress made in science, technology and development have undoubtedly brought sophistication and greater life expectancy, the equilibrium with which we have been living with nature is upset and this had led us to face several unprecedented catastrophes. Disability is one major issue in the health front. There are many causes and painful consequences to this. This course coming under M & P gives an overall glimpse on the assessment, management and the care given to the affected, especially the socially disabled, and briefs on efforts that are to be taken in rescuing, restoring and rehabilitating them.

Course outcome:

At the end of the course the students will be able to:

i. Classify the types of disabilities and identify strategies to remove social stigma associated with disability.

ii. Connect the models of disability and its discourses.

iii. Point out and prioritize the problems of Persons with Disability.

iv. Organize disability rehabilitation programmes.

v. Apply the social work methods and intervention strategies in addressing the disability.

Unit I: Disability & Types   **(Hour:18)**

Disability: Definitions, causes, types and magnitude of various disabilities, Prevention of disabilities at primary, secondary and tertiary levels. Concept: Disability, Impairment and Handicapped. Misconceptions and societal attitudes towards persons with disability.

Unit II: Historical context   **(Hour:18)**

Historical and contemporary perspectives on Disability. Models of Disability and discourses - historical, medical, social, spiritual, cultural, political, gender and psychological. Limitations and strengths of persons with disabilities.

Unit III: Disability impacts   **(Hour:18)**

Impact of disability on persons with disability and their families: reactions of parents/family members and ways of coping. Needs and problems of persons with disability and their families across the life span and at critical stages in their lives and social work intervention at each stage.

Unit IV: Disability rehabilitation   **(Hour:18)**

Multidisciplinary rehabilitation team and their roles: Process of rehabilitation, early identification, treatment, aids and appliances, psycho education, vocational rehabilitation and social integration within the family and community. Role of social worker in different settings - hospital and treatment centres, home, educational institutions, vocational rehabilitation centres, community based rehabilitation.

Unit V: Social Work with disability (Hour:18)
Social Work Methods and Intervention strategies - individual, family and community levels: problem: self-help level – self-help, support groups, assertiveness training, life skills enrichment; amily level - family crisis intervention, parent guidance, parent training, community level - community awareness and education, PWD Act.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Karanth, Pratibha & Joe Rozario, (2003) Learning disability in India, Sage, London
- Albrecht G.L, Katherine D Seelman. & Michael Bury, (2001) Hand Book of disability Studies, Sage, London.

References
- Hegarty Seamus & MithuAlur, (2002) Education and Children with special needs, sage, London,
- Grant, (2005) Learning disability: A lifecycle approach to valuing people, Open University Press, London
- Moore, (2005) Researching disability issues, Open University Press, London
- Sanchiler, Social welfare India.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean value: 2+2+3+4+5 = 17/5=3

Semester III   Credit*: 5*
Paper - 6   *Hr /wk: 5*
MSW 5427 FIELD WORK FOR MEDICAL & PSYCHIATRY- I
(BLOCK PLACEMENT)

Course Description:

The course aims at enabling the students to understand the various components of Medical and Psychiatric social work practice and develop skills and competencies required for effective Psychiatric Social Work Interventions at clinical and community level. This will be done by deputing students for a period of 30days in field work placement in Medical and psychiatric settings.

Course Outcome:

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in Health sectors.

ii. Familiarize and utilize the documentation skills, psycho social methods & therapies for wellbeing.

iii. Relate the structure and functions of Hospital Administration.

iv. Practice the models of rehabilitation and Develop insights on Medico legal challenges in health sector.

v. Equip and exhibit necessary skills and competencies relevant to Medical and Psychiatric settings.

UNIT I: Medical & Psychiatric Social Work in Clinical setting

Case history taking and mental status examination- Disability assessment and Management- Rehabilitation Processes- therapeutic Interventions- Home visits and Referral services- Counseling in different settings

UNIT II: Medical & Psychiatric Social Work in Community setting

Community basement rehabilitation- campaigning and educational programmes- state and Mental Health- Field Research. N.B The learning situation will be both structured and unstructured. The trainee will be given various practical assignments during the placement that would enable him/her to use not only process learning methods but also various non-participant study techniques.

Course Requirements and valuation:

75% of the marks will be allotted for Continuous Assessment. Regularity in field visits, seriousness of purpose, ability for conceptualizing issues, functional knowledge inMedical and Psychiatric social work practices, application of concepts and skills in problem solving will be assessed on the basis of weekly reports. A Viva- Voce will be conducted at the end of the semester with the faculty and External Examiner. Performance in Viva will be evaluated for 25%.

A. Continuous Assessment:

Nature of Project/ Assignment undertaken	- 15 Marks
Field Work Consultation and Conferences	- 15 Marks
Weekly Reporting	-20 Marks
Assessment by Training Organization	- 25 Marks
Total	**- 75 Marks**

(Regularity of attendance, willingness to take Instructions and responsibilities, learning and Problem solving ability etc.)

B. Viva- Voce:

Working Knowledge in the field	- 10 Marks
Conceptualization of issues	- 5 Marks
Problem solving ability	- 5 Marks
Consolidated Report	- 5 Marks
Total	**- 25 Marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6= 20/5= 4

Semester III   Credit:*4*
Paper - 3   *Hr /wk: 5*
MSW 5441 RURAL DEVELOPMENT IN INDIA
Course Description:
        This paper in planned to provide information on the life in the rural backdrop, governance and bureaucracy framework of rural development and seeks to examine at least few major rural schemes and projects that are conceived to alleviate and mitigate the existential problems of rural poor the India.
Course Outcome:
After completing this course, the students will be able to:
i. Cognize the rural economy and problems of rural India
ii. Analyze and apply the approaches of rural development
iii. Evaluate and practice the rural development policies and programmes for Rural Development
iv. Demonstrate Rural Development through Panchayatiraj system
v. Equip himself/ herself and employ in the Rural Development Administration and Financial Institutions working for rural development.

UNIT I: Nature of Rural Community   (Hour:18)
Rural Community: Definition, meaning, Characteristics of rural Community, Issues of accessibility, availability and affordability of basic services; Rural economy – Agriculture, non-agriculture sub sector, rural craft and occupation and rural industries; Problems in Rural India: Structural inequality, rural poverty and Rural employment. Livelihood: problems and prospects.

UNIT II: Rural Development   (Hour:18)
Rural Development: Concept, nature, philosophy and historical context; Meaning & Determinants; Early experiments of rural development-Sriniketan, Sevagram, Marthandam, Gurogaon, Firka development, Nilokheri and Etawoh pilot project; Approaches to rural community development.

UNIT III: Rural Development Programmes in India   (Hour:18)
Rural development policies and goals in India and Supportive Policies - Different Models of Rural Development – 1) Community Development Programme - History, objectives, activities and evaluation of CDP -2)Approaches and Strategies: Intensive Agricultural District Programme (IADP) , Integrated Rural Development Programme (IRDP), Draught Prone Area Programme (DPAP), Employment and Infrastructure Development Programme (EIDP), High Yielding Variety Programme (HYVP), NREGP.

UNIT IV: Rural Governance and Rural Development   (Hour:18)
Panchayati Raj Institutions: concept & Significance; Gram Sabha: Concept, Significance, Structure& Powers - People's participation in development –local self-governance – understanding the evolution of the panchayatiraj system - Detailed study of 73rd Constitutional Amendment - Successful models in Panchayatiraj system – Kerala, Karnataka and West Bengal models.

UNIT V: Rural Development Administration   (Hour:18)
Structure & Function of Rural Development Administration - structure of rural development department – DRDA-BDO-VAO; Financial Institutions: RBI, NABARD, CAPART, World Bank and IMF, Corporates etc. - Role in Rural Development: NGOs, Cooperatives, Public enterprises, SHGs and Community enterprises.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Singh, Katar.1999. Rural Development Principles, Policies and Management. New Delhi. Sage Publications.

References:
- McAreavey, Ruth. 2009, Rural development theory and practice ,Routledge studies in development and society, UK
- Kumar, S. 2002 Methods for Community Participation: A Complete Guide for Practitioners. New Delhi: Vistaar Publications.
- Reddy, G.R., & Subrahmanyam, P. 2003 Dynamics of Sustainable Rural Development. New Delhi: Serials Publication
- Shah. G (1990), Social Movements in India, Sage Publications, New Delhi.
- Sharma, K. L (1998) Social Stratification in India, Rawat Publications, Jaipur.
- Beteille, A (1992) The Backward Classes in Contemporary India, Oxford University Press, New Delhi.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5					5	

Mean value: 2+3+4+4+5= 18/5= 4

Semester III   **Credit:***4*
Paper - 4   *Hr /wk: 5*

MSW 5443 LIVELIHOOD AND SOCIAL ENTERPRISES

Course Description: This course aims to introduce and facilitate about the concept Livelihood and Social Enterprises among the students and expose them to the social enterprise models to enhance and strengthen their competence in social entrepreneurship.

Course outcome: At the end of the course the students will be able to:
i. Associate the concepts of livelihood, its approach and promotion.
ii. Apply and choose livelihood for the upliftment of community/society.
iii. Sketch out the plans and execute social entrepreneurship activity and CSRs.
iv. Connect the skills, quality and traits of social entrepreneurship to bring a positive societal change.
v. Appraise and compare the case studies to gain appropriate livelihood promotion activities.

UNIT I: Introduction   **(Hour: 18)**
Livelihood: Meaning, Definition, Importance and Types of Livelihood. Livelihood Principles and approaches. Livelihood promotion by different agencies – Governmental and Non-Governmental Organizations. Major Livelihood Programmes In India - Challenges in Livelihood Promotion

UNIT II: Livelihood framework: **(Hour: 18)**
Livelihood Frame Work – Assets/Capitals – Natural, Physical, Financial, Human and Social. Livelihood Frame Work Analysis. Tools and Techniques for Livelihood Mapping and Sub sector analysis. Participatory assessment and Planning for Sustainable Livelihood.

Unit III: Social Enterprise: **(Hour: 18)**
Social Enterprise: Concept, definition, importance and types. Growth and performance of social enterprises in India. Social Enterprise Vs Corporate Social Responsibility. Role and skills of social workers in Social Enterprise.

Unit IV: Social Entrepreneurship: **(Hour: 18)**
Social Entrepreneurship: concept, definition, importance and Types: social entrepreneurship - business entrepreneurship-Sustainable entrepreneurship; Concept, definition, importance, Skills, Qualities and traits of entrepreneurs. Role of social workers in entrepreneurship and Sustainable entrepreneurship development.

Unit V: Case study   **(Hour: 18)**
Case studies Case studies in Livelihood Promotion –Watershed, Animal Husbandry, Micro enterprises, Micro Finance; Case studies of Indian social enterprises and entrepreneurs such as Ela Bhatt, M.S.Swaminathan, VargeeseKurien, Aruna Roy, Rajinder Singh. Case studies related to CSR: Suzlon, Hindustan-Unilever, Infosys, Wipro, Ranbaxy and TATA

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Vijay Mahajan, Sankar Datta and Gitali Thakur, (2001) A Resource Book for Livelihood Promotion,
- Phansalkar, (2003) Livelihoods: Promoting Livelihood Enhancement, Mumbai, Sir Dorabji, Tata Trust.

References:
- Livelihood - Key Concepts,(1999) ICRA Learning Resources
- DFID (2001) Livelihood Framework - Sustainable Livelihood Guidance Sheets
- Perpetua Katepa, (2005) Sustainable Livelihood Approaches in Operation: A Gender Perspective, International Associates for Development
- David Bornstein, (2007) how to change the world, social entrepreneurs and the power of New Ideas , Oxford university Press
- Alex nichollls (2006) social Entrepreneurship: New models of Sustainable Social change, Oxford university Press.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5					5	

Mean value: 2+3+4+4+5 = 18/5= 4

Semester III   Credit:*4*
Paper - 5   Hr /wk: 5

<div align="center">

MSW 5445 NGO MANAGEMENT

</div>

Course Description:
　　　　This course aims at introducing the students of development management specialization, the concepts and principles involved in managing non-profit organizations, particularly Nongovernmental Organizations (NGOs). The need for establishing NGOs and the context with the ways and means of managing a nonprofit agency will be narrated. The organizational structure, the frame and terms of references made within and between agencies of similar kind functioning within India and abroad will be adequately covered.

Course Outcome:
At the end of the course the students will be able to:
i. Associate and infer civil society, voluntary organization and NGO interface.
ii. Demonstrate independently the legal framework of voluntary organizations.
iii. Create and manage the NGO and its structure, process through management skills.
iv. Assess the methods or ways to mobilize the resources independently.
v. Create, appraise and evaluate developmental projects in NGOs.

Unit I: Non-Governmental Organizations (NGO)   **(Hour: 18)**
NGO: Concept, Meaning, Need, Classification and types, Functions, Principles, Role of NGOs in Development. Historical Development of NGOs in India. Locating NGOs – Voluntarism and Civil Society – the Third Sector - Development aid chain; NGO Interface – State relationship– Networking, Partnering, Collaborating - NGO as Organizational Entities.

Unit II: Legal framework   **(Hour: 18)**
Need for Legal framework: Registration and Establishment of NGOs –Societies Registration Act, Trust Act and Company's Act (Sec. 25) - Bylaws Preparation – MOU, MOA. Specific Tax Exemptions (Section 12 A, Section 35 AC, Section 80 G & 80 GG of Income Tax Act. Foreign Contribution Regulations Act.

Unit III: Organizational structure & management   **(Hour: 18)**
Vision, Mission and Goals; Management: Strategic Planning - Division of responsibility, authority and power relations - Decision making – Participation; Accountability and Transparency; HR competencies: need and importance, Training and Development and Appraisal of NGO staffs.

Unit IV: Resource mobilization   **(Hour: 18)**
Resource mobilization: Non-Financial Resource – Natural Resources, Physical Resources – Human Capital Resources and Social Capital - Financial Resource. Funding source: Institutional and Non-Institutional, National and International; Financial Management: concepts and Basic Accounting principles, Office management: record keeping and documentation, File upkeep and maintenances, Publicity and public relations.

Unit V: Managing Projects in NGOs (Hour: 18)

Project management: Project - concept, meaning, need, importance; requirement of Project proposal writing; Project management cycle; Project Management Tools: Stakeholder analysis, Gender Analysis, Problem Analysis, Logical Frame Analysis (LFA).

Pedagogical approach:

Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:

- Kandasamy, M., 1998 *Governance and Financial Management in Non–Profit Organization*s. New Delhi: Caritas India.
- Fowler, Alan. 1997. *Striking a Balance - A Guide to Enhancing the Effectiveness of Non-Governmental Organizations in International Development. London. Earthscan Publications Ltd.*

References:

- Brody, R. 2004 *Effectively Managing Human Service Organizations*. Sage Publications
- Drucker, P.F., 1992, *Managing the Non-Profit Organization: Principles and Practices.* Harper Business
- Julie Fisher, 2003 *Governments, NGOs and the Political Development of the Third World,* Jaipur: Rawat Publications.
- Kilby, Patrick, 2011, *NGOs in India : the challenges of women's empowerment and accountability,* Routledge contemporary south Asia series, London and New York

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3						6
CO4					5	
CO5						6

Mean value: 2+3+5+6+6 = 22/5 = 4

Semester III   **Credit:** *4*
Paper - 6   *Hr /wk: 5*
MSW 5447 - FIELD WORK FOR DEVELOPMENT MANAGEMENT - I
(BLOCK PLACEMENT)

Course Description:
           The course aims at training the students build their own skills and competencies required for Development Sector. This will be done by organizing field work placements in NGOs and other Development agencies for a period of 30days.

Course Outcome:
At the end of the course the students will be able to:
i. Understand and apply the methods of social work practices in rural community settings.
ii. Familiarize and apply the NGO management techniques and its implications in voluntary sector.
iii. Relate the structure and functions of NGOs and NGDOs.
iv. Equip necessary project management skills and competencies to execute the projects in NGO sector.
v. Develop insight and practice social justice through civil society for further nation building.

UNIT I: NGO and the Community Interface
Peoples' Constituency- Community structure- Current problems and issues- Relationship with CBOs- Entry strategies- Sustaining relationships- Community perceptions- Exit strategies

UNIT II: NGO and the State
Collaboration with the state- State sponsored projects-State- NGO relationships - problems in autonomy and Critical collaboration- Evaluating NGO Experiences

UNIT III: Networking
Understanding networks- Partnering and collaborations- NGO collectives- Nodal agency roles

UNIT IV: Advocacy
Role in advocacy- Methods and strategies adopted

UNIT V: Knowledge Management
Documentation- Research and knowledge generation- knowledge dissemination methods.
N.B The learning situation will be both structured and unstructured. The trainee will be given various practical assignments during the placement that would enable him/her to use not only process learning methods but also various non-participant study techniques.

Course Requirements and valuation:
           75% of the marks will be allotted for Continuous Assessment. Regularity in field visits, seriousness of purpose, ability for conceptualizing issues, functional knowledge in NGO Management, application of concepts and skills in problem solving will be assessed on the basis of weekly reports. A Viva- Voce will be conducted at the end of the semester with the faculty and External Examiner. Performance in Viva will be evaluated for 25%.

A. Continuous Assessment

Nature of Project/ Assignment undertaken	- 15 Marks
Field Work Consultation and Conferences	- 15 Marks
Weekly Reporting	-20 Marks
Assessment by Training Organization	- 25 Marks
Total	**75 Marks**

(Regularity of attendance, willingness to take Instructions and responsibilities, learning and Problem solving ability etc.)

B. Viva- Voce

Working Knowledge in the field	- 10 Marks
Conceptualization of issues	- 5 Marks
Problem solving ability	- 5 Marks
Consolidated Report	- 5 Marks
Total	**- 25 Marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6 = 20/5 = 4

Semester III   Credit:*4*
Paper – 3   *Hr/ Wk: 5*
MSW 5461 FUNDAMENTALS IN HUMAN RESOURCE MANAGEMENT
Course Description:
        The main objective of this course is to prepare the students for management and administrative positions in various industrial, businesses, governmental/ non- governmental organizations and service sector organizations.

Course Outcome:
At the end of the course the students will be able to:
i. To interpret and translate the principles and approaches of management
ii. Describe and associate the importance of human resources and their effective management in organizations
iii. Demonstrate and apply the process of HR in his/her work place.
iv. Appraise and audit the performance of the employees at his/her work place.
v. Analyze and equip to survive as a HR personnel in the global context.

UNIT I: Management   **(Hours:18)**
Management -Definition, Concept, Principles. – Theories of Management - Henry Fayol's principles of management – Human Relations Movement - Systems Approach - Contribution of Frederick W. Taylor, Peter Drucker.

UNIT II: HRM   **(Hours:18)**
HRM: Meaning, Definition, Concept, objectives and importance- Role of HR Manager; Competencies of HR Manager - Changing role of HRM. Human Resources Planning - Nature and need for Human Resource Planning in Organizations- Importance of HRP - HRP Process- Various factors affecting HRP.

UNIT III: HR Process   **(Hours:18)**
Job analysis- purpose and methods- Job description- Job specification- Job evaluation - techniques in job evaluation - Job enrichment - Job enlargement, Attrition &, Retention; Human Resource Acquisition**:** Recruitment - Meaning and Definition- Factors affecting Recruitment, Sources of Recruitment; Selection: Meaning - Process of Selection- Placement- Orientation.

UNIT IV: Performance Management System   **(Hours:18)**
Performance Management System: Concept, Philosophy, Performance Management Process – Skill Matrix, 360 Degree Appraisal, Balanced Score Card, , Performance Counselling, Mentoring; Employee Engagement Activities: HR Audit, Knowledge Management, Business Process Outsourcing**.**

UNIT V: Global HRM   **(Hours:18)**
SHRM: Introduction- Definition- Rationale for SHRM; IHRM**:** Concept, Definition, importance, and models of International HRM - Challenges of International HR Managers; Global HR practices; intellectual capital; Cross-border Alliances – Cross-border mergers , acquisitions & Joint Ventures.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Aswathappa, K (2008), International Human Resource Management, New Delhi, Tata-
- Bhatia, B S (2003), Human Resource Management, New Delhi, Deep & Deep.

Reference:
- Arya & Tandon, (2004), Human Resource Management, New Delhi, Deep & Deep
- Cary. L. Cooper 2005- Reinventing HRM Challenges and New Directions, Atlantic Publishers
- Chatterjee, Baskar (2007), Human Resource Management, New Delhi, Sterling Pub.
- Chatterjee. B 1999 - Human Resource Management: A Contemporary Text, Sterling Publishers, New Delhi
- Fisher &Cynthia 1997- Schoenfeldt Human Resource Management Development, Houghton Mifflin Publishers, Boston
- Kushway, Barry (2004), Human Resource Management, New Delhi, Crest Publishing, McGraw Hill.
- Mrudula.E & Ramani.V.V 2007- Emerging Trends in HRM: Sectoral Experiences, DGM Icfai Books

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5				4		

Mean value: 2+3+4+4+5 = 18/5 = 4

Semester III   Credit:*4*
Paper - 4   *Hr/ Wk: 5*

MSW 5463 INDUSTRIAL RELATIONS AND LABOUR LEGISLATIONS

Course Description:
         The purpose of this course is to provide in-depth knowledge about the relationship between Employer, Employee and the State, to bring out the importance of cordial employee relations for organizational productivity.

Course Outcome:
At the end of the course the students will be able to:
i. Understand and demonstrate the essential practices, forms and functions of industrial relations and labour welfare in India.
ii. Classify and ensure implementation of the appropriate legislations related to work and safety in Indian industries.
iii. Implement appropriately the legislations related to social security and wages in Indian industries.
iv. Execute and maintain industrial relations through legislations.
v. Analyze core issues, policies and practices surrounding employee conflict and disputes.

UNIT I: Industrial Relations   **(Hours: 18)**
Industrial Relations (IR) - Introduction -Meaning and Definition, Forms of IR –Significance of good IR Practices; Labour Legislation: Concept, Meaning, Objectives and Importance; Labour Welfare: concept, scope and classification- Role and functions of Labour Welfare Officer. International Labour Organization (ILO): Objectives, functions and role of ILO in labour welfare- implementation of ILO recommendations in India.

UNIT II: Working and Safety   **(Hours: 18)**
The Factories Act 1948, The Mines Act 1952, The Plantation Labour Act 1951, Tamil Nadu Shops and Establishment Act 1947, Tamilnadu Industrial Establishment (National and Festival Holidays) Act 1951.

UNIT III: Social Security and Wages   **(Hours: 18)**
Social Security: The Workmen's Compensation Act, 1932; The Employee State Insurance Act, 1948; The Employees Provident Fund and Miscellaneous Act, 1952; The Payment of Gratuity Act, 1972; The Maternity Benefit Act, 1961; Legislations relating to Wages: The Payment of Wages Act, 1936; The Minimum Wages Act, 1948; The Equal Remuneration Act, 1976; The Payment of Bonus Act, 1965.

UNIT IV: Legislations related to Industrial Relations   **(Hours: 18)**
The Industrial Disputes Act, 1947; The Industrial Employment (Standing Order) Act, 1948; The Trade Union Act, 1926; The Contract Labour (Regulation and Abolition) Act, 1970.

UNIT V: Conflicts and Disputes (Hours: 18)

Conflicts & Grievances: Meaning, Causes, forms of conflicts: strikes and Lockouts, Redressal Procedure; Collective bargaining: Meaning, Scope, difficulties encountered in India; Negotiation: Meaning, procedure; Workers Participation in management: Meaning and importance; Industrial Social Work: meaning, scope, Role of Social Worker.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Tripathi.P.C 1994- Personnel Management &Industrial Relations, Sultan Chand Publishers , New Delhi
- Padhi.P.K 2012- Labour and Industrial Laws, PHI Publishers

References:
- Madhusudhana Rao. M 1986- Labour Management Relations And Trade Union Leadership, Deep and Deep Publishers, New Delhi
- Lal Das. D. K 1991- Personnel Management, Industrial Relations and Labour Welfare, Y.K. Publishers, Agra
- Arora. M 2005- Industrial Relations, Excel Book Publishers, New Delhi
- SharitBhowmik 2012- Industry, Labour and Society, Orient Blackswan Publishers
- Kumar. H. L 2013- Labour Laws Everybody Should Know, Universal Law Publishers

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5				4		

Mean value: 2+2+3+4+4 = 15/5= 3

Semester III   Credit:*4*
Paper - 5   Hr/ Wk: 5
MSW 5465 ORANIZATIONAL BEHAVIOUR
Course Description:
        The purpose of this course is to provide in-depth knowledge about organizational behavior relationship between to perceive develop the skills appropriate to the field practices to bring out the importance of cordial behaviour for organizational productivity.

Course Outcome:
At the end of the course the students will be able to:
i.   Express and associate the concept of Organizational Behaviour (OB) in contemporary organization.
ii. Identify and predict the human behaviours at work place.
iii. Understand and review the organizational dynamics.
iv. Carryout the concepts and styles related to management like TQM, TPM, 5S, Kaizen, Six sigma etc
v. Recognize the meaning and characteristics of organizational culture.

Unit I: Organizational Behaviour (OB)   **(Hours:18)**
OB: Nature, Meaning and Definition, History, Models- Contributions of Hawthorne studies. System views of Organization level of analysis (Individual, group and organization). Organizational Effectiveness, Organizational Climate.

Unit II: Human Behaviour at Work   **(Hours:18)**
Job satisfaction, morale, motivation &Theories - Maslow, Herzberg, Vroom, McClelland; Conflict and Negotiation, Stress management and Effective Communication, Johari Window.

Unit III: Organizational Dynamics   **(Hours:18)**
Groups in Organization: Nature, Cohesiveness, group dynamics; dynamics of group formation; Teams: Meaning, Characteristics, Types and significances. Leadership: process, style, types and theories - Contingency theory, Managerial Grid, Situational, Transactional and Transformational.

Unit IV: Human Engineering   **(Hours:18)**
TQM, TPM, Japanese Style of Management-5S, Kaizen and Six Sigma and its applicability; Occupational hazards at workplace environment. Employee counselling: Meaning, scope, methods.

Unit V: Organizational Culture   **(Hours:18)**
Meaning and characteristics, Challenges, Organizational socialization process, Function and effects, role of leaders in OC, Assessing organizational culture, changing organizational culture, developing a global organizational culture.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Stephen Robins (1993), Organizational Behaviour PHI, New Delhi,
- Vroom V.H & Grant L. Organizational Behaviour and Human Performance Wiley, New York 1969.

References:
- Arnold, Hugh J. & Daniel E.Feldman (1986), Organizational Behaviour, McGraw Hill,
- Fred Luthans (1993), Organizational Behaviour, McGraw Hill New York,
- Hellriegel Slocum Woodman: Organizational Behaviour- Thomoson Asia Pvt Ltd. Singapore
- Keith Davis: Human Behaviour at Work McGraw Hill New York 1993
- Lawler, Porter L.M: Behaviour in Organizational McGraw Hill, NewYork ,1975
- Lewll L.N. and Reitz H. J Group Effectiveness in Organization in Organization, Glenview I.L: Scott foreman
- Ouchi W.G: Theory .How American business can meet the Japanese Challenges, Addison West. 1981
- Prasad L.M: Organizational Behaviours.Chand & Co. 1996
- Schein Edgar: Organizational Psychology, Englewood Cliffs NJ, Prentice Hall, 1970.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3				4		
CO4					5	
CO5					5	

Mean value: 2+2+4+5+5= 18/5= 4

Semester III   **Credit:*4***
Paper - 6   **Hr/ Wk: 5**
MSW 5467   FIELD WORK FOR HUMAN RESOURCE MANAGEMENT- I
(BLOCK PLACEMENT)

Course Description:

The course aims at enabling the students to understand the emerging trends and concepts in HR practices and hone skills and competencies required for effective HR interventions. This will be done by organizing field work placements in Industrial settings for a period of 30days.

Course Outcome:

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in industrial settings.

ii. Familiarize and apply the HR process and its implications in the organizational sector.

iii. Relate the structure and functions of HR department in the organization.

iv. Equip necessary HR skills and competencies to execute the job in the organization.

v. Develop insight and practice the value addition by the HR department to further the business goals of the company.

UNIT I: Issues and Practices in Industrial Relations

Legal basis of IR- applications of trade Union Act- ID Act etc.- Trade unionism- Issues of changing roles- Industrial dispute and dispute settlement procedures- grievance handling procedures- Collective barraging- Nature and changing patterns- Negotiation- Conciliation- Arbitration in industries.

UNIT II: OD Interventions

Steps and processes in organizational change- Employee participation and empowerment- organizational restructuring- job redesigning- OD interventions such as TQM, ISO, QC, QWL etc.

UNIT III: Social Work Interventions in Industry

Industrial counseling- Employee family welfare programmes- Community development projects- Collaborating with government and non- government organizations-Social responsibility of industries.

N.B The learning situation will be both structured and unstructured. The trainee will be given various practical assignments during the placement that would enable him/her to use not only process learning methods but also various non-participant study techniques.

Course Requirements and valuation:

75% of the marks will be allotted for Continuous Assessment. Regularity in field visits, seriousness of purpose, ability for conceptualizing issues, functional knowledge in HR Practices, application of concepts and skills in problem solving will be assessed on the basis of weekly reports. A Viva- Voce will be conducted at the end of the semester with the faculty and External Examiner. Performance in Viva will be evaluated for 25%.

A. Continuous Assessment

Nature of Project/ Assignment undertaken	- 15 Marks
Field Work Consultation and Conferences	- 15 Marks
Weekly Reporting	-20 Marks
Assessment by Training Organization	- 25 Marks
Total	**- 75 Marks**

(Regularity of attendance, willingness to take Instructions and responsibilities, learning and Problem solving ability etc.)

B. Viva- Voce

Working Knowledge in the field	- 10 Marks
Conceptualization of issues	- 5 Marks
Problem solving ability	- 5 Marks
Consolidated Report	- 5 Marks
Total	**- 25 Marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6 = 20/5= 4

Semester IV   Credit*: 4*
Paper –1   *Hr /wk: 5*
                        MSW 5412 PROJECT

Course Objective:
        This course practically aims at acquiring the application of research methods, tools and techniques and to develop skills of analysis and reporting among the students. This is done by encouraging students to identify researchable problems in their areas of specialization and do independent field study projects.

Course Outcome:
At the end of the course the students will be able to:
i. Identify and Formulate the Research Problems independently.
ii. Execute appropriate Research Methods and Designs for the research Process.
iii. Employ appropriate data collection tools and sampling techniques
iv. Organize the Data and produce results using appropriate data analysis tools.
v. Draft the research thesis independently.

Course Requirements and Evaluation
1. The duration for the study project is for one semester.
2. The students shall submit the report in a prescribed mentioned format on or before a specified date, failing which will warrant disqualification.
3. The student shall work under the close supervision and consultation with the faculty guide appointed for the purpose at every stage of the research work regularly and get approved failing in which leads to disqualification for appearing in Viva Voce examination.
4. The faculty advisor shall be responsible for the continuous assessment of the course and his/her recommendation for final evaluation of the project shall be mandatory.
5. 75% of the marks shall be allotted for continuous assessment. Continuous assessment shall be made on the following basis by the faculty advisor:

    A. Continuous assessment

Participation in Research workshops	15 marks
Consistency of involvement and meeting deadlines	15 marks
Individual presentations	20 marks
Ability for independent work	25 marks
Total	**75 marks**

6. Remaining 25% of the marks shall be allotted for Terminal Evaluation on successful completion and submission of the Project Report (2 bounded copy) in the **Prescribed format - 40 pages in A4 size executive bond paper excluding tabular columns, graphs etc.,**
7. **The Project Work has to be duly recommended by the faculty advisor and the Head of the Department for appearing in the final Viva Voce.**
8. **The Viva Voce shall be conducted by a three-member committee of examiners of which one is an external member**.

9. 25% of the marks allotted for the Viva Voce will be assessed on the following basis:
Problem identification and conceptualization
of the Research Question   5 marks
Review of Literature   5 marks
Effort taken in collecting data   5 marks
Innovative methods and techniques used 5 marks
Analysis, Conclusion & Reporting   5 marks
                           Total   25 marks
Any proven case of plagiarism will warrant disqualification.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6 = 20/5= 4

Semester IV   Credit:*4*
Paper – 2   **Hr /wk: 5**
MSW 5414 MEDIA AND SOCIAL WORK
Course Description:
This course is important to all students getting trained in social work because effective communication is a basic necessity for any individual to make sense in this society. With the internet technology, the conventional means of communication which gives a world of opportunity for imaginations and freedom to interpret contexts takes a beating. it becomes all the more important to train students in various methods in the mainstream and alternate forms of communications. With this in mind the course on Development Communication for Social Advocacy aims at training the students.

Course Outcome:
At the end of the course the students will be able to:
i. Explain and associate the significance of mass communication and mass media in the society.
ii. Classify and recognize the genres, nuances of mass media and its impact on culture.
iii.Explain the concepts of development communication and its role in societal development.
iv. Demonstrate and dramatize the community or society to create awareness and sensitization programme through alternative media.
v. Integrate, organize and plan social advocacy programs for the development of society.

Unit I: Media and Mass Communication   **(Hours: 18)**
Communication: Meaning, concept, significance and Types, Sociological aspects of Communication; Communication and Culture; Communications Models - Print, Visual and Electronic; Mass Communication: Meaning, Development and Scope; Mass Media - Meaning, Elements & Functions of Mass Media, Impact; Role of Mass Media in National Development, Limitations in the use of Mass Media in India.

Unit II: Nuances of Mass Media on culture   **(Hours: 18)**
Role & Performance: Mass Media & Cyber Media - Cultural approaches: Mass communication and multicultural nuances and its impact; Mainstream modes: Print and visual media – A critique on populist Genre in Print media, Television and Movie - Media Education

Unit III: Need for Development Communication   **(Hours: 18)**
Development Communication: Definitions- Roles of Development Communication – Philosophy - General differences from communication – goals of communication – difference between communication for development and development communication

Unit IV: Alternative Media   **(Hours: 18)**
Alternative media: Definition and usage, types, relevance; Group Media: Concept, manufacture and use of different media for a campaign - photos, posters, puppets, flash cards, street play, Electronic Media: strengths and limitations; internet as a tool for development; Social networking: Face book, twitter, Blog, Websites and emails - Folk Media: Definition, types, problems faced in using folk media

UNIT V: Advocacy for Social Work Practice (Hours: 18)
Advocacy –Meaning, Definition, types; Social Advocacy: Meaning, Need, Process, Social advocacy and social change; Role of Social Worker in social advocacy; social activism: Communicating social emotions, needs and canalizing information.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Kumar, Keval 2004, Mass Communication in India. Mumbai: Jaico Publishing House.
- Mody, Bella 1991, Designing Messages for Development Communication: An Audience Participation Based Approach. New Delhi: Sage Publications.

References:
- Doctor, Aspie et al 1984, Basic study in Mass Communication. Mumbai: Seth Publishers.
- Poster, Mark. 1991. Post Structuralism and communication. London. Polity press.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5						6

Mean value: 2+2+3+4+6 = 17/5 = 3

Semester IV   Credit:*4*
Paper – 3   *Hr/Wk:5*
MSW 5420 MEDICAL SOCIAL WORK
Course Description:
        This course coming as a paper of specialization to the student who intends training in the field of Medical and Psychiatry aims at providing a concise but comprehensive opening to the medical settings. It will highlight and show the student the realm of medical social work with a special task of identifying the opportunities and spaces exclusively available for a trained social worker to be involved in augmenting the health care delivery in India and elsewhere. It would define the job role which is different from the physicians and medical doctors, and all those involved in routine Hospital and Public Administration.

Course Outcome:
At the end of the course the students will be able to:
i. Relate the practice of medical social work in different settings.
ii. Discover the implications of illness by understanding the historical context of medical social work.
iii. Realize the role of medical social worker in varies settings.
iv. Plan and formulate rehabilitation programmes.
v. Assess the ethical challenges and medico legal issues and propose alternatives.

Unit I: Medical Social Work   **(Hours: 18)**
Medical Social Work: Definition, Concept, Objectives, Nature, Need and Scope; Ethical Practices, Roles and Functions of a Medical Social Worker; Medical Sociology and its Relevance to Medical Social Work Practice. Practice of Social Work Methods in Hospital Settings: the Need and Importance in Working with Patients and Families, Scope and Limitations of Practice.

Unit II: Historical perspective   **(Hours: 18)**
 Historical Development of Medical Social Work in India and Abroad; Difference between Disease, Illness and Sickness; Psychological, Social and Economic Implications of Illness and Concepts of Patient as a Person, Principles of Medical Social Work; Role of Social Worker as a Member of the Multi-Disciplinary Team.

Unit III: Role of Medical Social Worker   **(Hours: 18)**
Role of the Medical Social Worker: Out-Patient Unit, In-Patient Unit, Intensive Care Unit, Neonatal Intensive Care Unit, Paediatric Ward, Maternity Ward, Family Planning Centre, ICTC, Orthopaedic Department, Cardiology Department, Blood Bank, Oncology Unit.

Unit IV: Rehabilitation   **(Hours: 18)**
Rehabilitation: Definition, Concept, Principles, And Process; Role of the Medical Social Worker In Rehabilitation Planning, Resource Mobilization, and Follow-Up. Rehabilitation Units - Hansenorium, TB Sanatorium, Hospice, Palliative Care for Terminally Ill.

Unit V: Challenges and Issues   **(Hours: 18)**
Ethical Challenges – Aids, Abortions, Euthanasia, Sterilization, Adoption of children, Ethical issues & poor patients, Ethical Issue of Examination of females, Use of new drugs on trial on

patients. Medico Legal Issues: Negligence, Professional In-competency, Organ Transplants, Personal Injury, Ethical issues in human experimentation, Sex Determination & genetic counselling, Medical Termination of Pregnancy Act, 1972.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Bajpai P.K. (ed.) (1997), Social Work Perspectives in Health, Rawat Publications, Delhi.
- Barlett H.M. (1961), Social Work Practice in the health field; National association of social workers, New York.

Reference:
- Anderson R. & Bury M. (eds) (1988), Living with chronic illness – the experience of patients and their families, Unwin Hyman, London.
- Crowley M.F., (1967), A New look at nutrition; Pitman Medical Publishing Co., Ltd., London.
- Field M., (1963), Patients are people – A Medical – Social Approach to Prolonged illness; Columbia University Press, New York.
- Gambrill. E. (1997), Delhi Social work in the 21st century, Pine forge press, New Delhi.
- Pokarno K.L., (1996), Social Beliefs, Cultural Practices in Health and diseases; Rawat Publications, Delhi.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean value: 1+2+3+4+5 = 15/5= 3

Semester IV   **Credit:***4*
Paper – 4   *Hr/ wk: 5*
MSW 5424   PSYCHIATRIC SOCIAL WORK

Course Description:
        The theme of the course is to stress upon the need and the dictum that stability of mind, thought and action is imperative to the well-being of community and effective functioning of a healthy society.   To help the students to gain a broader understanding and the working knowledge to specialize in the field of Mental health, various aspects of diet, habits, culture and practice that would determine the cognitive and emotional upkeep will be informed in the first part of the course while the major emphasis will go on the causes, effects, personal family and societal consequences of the consequences for emotional breakdown and mental disorders.

Course Outcome:
At the end of the course the students will be able to:
i. Infer concepts and scope of psychiatric social work in the field of psychiatry.
ii. Distinguish the different types of mental illness.
iii. Organize psychiatric assessments and therapies.
iv. Relate the role and functions of psychiatric social work in families, clinics, homes etc.
v. Prepare psychiatric emergencies and rehabilitation programmes through health care agencies.

Unit I: Psychiatric Social Work   **(Hours: 18)**
Psychiatric Social Work: Concept, Definition, Scope, Historical Development in UK , USA & India, Methods of Social Work in the field of Psychiatry: Case Work, Group Work, And Community Organization, Limitations and Difficulties Faced in Psychiatric Social Work Practice.

Unit II: Mental health classification   **(Hours: 18)**
Myths and misconception pertaining to mental illness in ancient, medieval and modern times; concepts of normality, abnormality and mental health; classification of mental illness: Diagnostic Statistical Manual (DSM) IV- TR; International Classification of Diseases (ICD 11).

Unit III: Assessment and therapies   **(Hours: 18)**
Psychiatric Assessment: Interviewing, Case History Taking, Mental Status Examination; Diagnosis. Therapeutic Intervention in Psychiatric Illness: Psycho Social Education, Cognitive Therapy, Group Psychotherapy, Family Therapy, Marital Therapy, Clinical Hypnotherapy, ECT, Occupational Therapy.

Unit IV: Functions and roles   **(Hours: 18)**
 Roles and functions of a psychiatric social worker with regards to the problems of patients and their families in: 1) psychiatric OPD'S 2) psychiatric specialty clinics 3) de-addiction centres 4) child guidance clinics; day care centres, half way homes, sheltered workshop and transitory homes

Unit V: Rehabilitation   (Hours: 18)

Rehabilitation of psychiatric patients: role of the social worker in rehabilitation – principles, Process and models of psychiatric rehabilitation; role of the psychiatric social worker in team work. National Mental Health Programme; District Mental Health Programme.

Pedagogical approach:

Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:

- Kaplan, H.I. Freedom A.M. and Sadock B.J. (1980) Diagnostic criterion from DSM-IV American psychiatric assn,
- World Health Organization Geneva (1992) The ICD 10 Classification of Mental and Behavioural disorders. Clinical Description and Diagnostic Guidelines; Oxford University Press.

References:

- Barker P. Child Psychiatry; Granada Publishing Ltd.
- Bellack A.S. (1984) Schizophrenia, treatment Management in Adult Bailliere Tindall, London.
- Berrios, G.E. & Dawson J.H. (1983) Treatment and Management in Adult Bailliere Tindall, London.
- Child Mental Health – Proceedings of the Indo – US Symposium, NIMHANS and ADAMHA
- Comprehensive Textbook of Psychiatry, (third ed.) vols. 1,2&3; Williams and Wilkins, Baltimore / London.
- Anand K K, (1996) Hospital Management: a new perspective, New Delhi, Vikas Publishing House.
- Desai VA, (1985) Hospital Administration, Miraj, Wanless Hospital.
- Francis CM (1995) Hospital Administration, New Delhi, Jaypee Brothers.
- Goel SL (1981) Health care Administration – A text Book, New Delhi, Sterling Publishing House.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5						6

Mean value: 2+2+3+4+6 = 17/5= 3

Semester IV   Credit: *4*
Paper – 5   *Hr/Wk: 5*

MSW 5426 HOSPITAL MANAGEMENT

Course Description:

　　　　With medical tourism and Hospital Management emerging as contemporary avenues of interest in the market world that has only virtual boundaries, social workers and social work professionals cannot simply brush aside the stark truth and be complacent without addressing its impact on the multifarious dimensions of life. Though courses covered in the MA social work curriculum alludes to certain community and social issues that comes as package with liberalization, privatization and globalization, a curriculum that had leaning with medical and psychiatry specialization cannot remain mute by not making discourse on Hospital Administration, and hence this course.

Course Outcome

At the end of the course the students will be able to:

i. Relate the functions and services of hospitals and its administration.

ii. Identify and classify the types and Roles of Hospitals.

iii. Utilise the Support of auxiliary services for better Hospital Administration.

iv. Demonstrate the HR process using HR and Management Skills.

v. Interpret appropriate policies and Programmes related to Health in India.

Unit I: Hospitals   **(Hours: 18)**

Hospitals: Concept, Services and Functions, History and Evolution of Hospitals, Hospital Administration: Meaning, Nature, Scope and Principles.

Unit II: Hospital types   **(Hours: 18)**

Types of Hospitals: Government, Private, Single/ Super Specialty, Trust, Nursing Homes, Profit & Non Profit Hospitals, Public Private Partnership in Health Care. Role of Hospital Administrator towards: Patient, Hospital Organization, Community.

Unit III: Hospital services   **(Hours: 18)**

Support and Auxillary Services**:** Pharmaceutical Services, Laundry, Laboratory and X- Ray, Nursing Services, Diet Management Service, Stores, Registration and Indoor Case Records, Transport, Martuary.

Unit IV: HR in Hospitals   **(Hours: 18)**

Human Resources Planning and management,: Planning, Organizing, Staffing, Directing, Controlling , Coordinating, Patient Management, Patient Satisfaction and Accountability, Human Resource Information System, Hospital Information System.

Unit V: Policies and Programmes   **(Hours: 18)**

Policies and Programmes: National Health Policy: GoI, 1983 & 2002, NRHM & Major Health Programmes in India, Legislations in India governing Health Care.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Desai VA, (1985) Hospital Administration, Miraj, Wanless Hospital.
- Goyal,RC (2006) Hospital Administration and Human Resource Management, New Delhi, Prentice Hall, India.

References:
- Anand K K, (1996) Hospital Management: a new perspective, New Delhi, Vikas Publishing House.
- Benjamin Robert, et al 1983, Hospital Administration Desk Book Newjerky Prentice hall
- Davies r lawelyn et al 1966, Hospital planning & administration Geneva WHO
- Francis CM (1995) Hospital Administration, New Delhi, Jaypee Brothers.
- Goel SL (1981) Health Care Administration – A Text book, New Delhi, Sterling Publishing House.
- Rabick & Jonathan et al 1983, Hospital Organization and Management London Spectrum Publishers.
- WHO Expert Committee 1975, Role of Hospital in programme of Community health protection WHO technical Report service.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean value: 1+2+3+4+5 = 15/5= 3

Semester IV   Credit: *4*
Paper - 6   *Hr /wk: 5*
MSW 5428 FIELD WORK FOR MEDICAL AND PSYCHIATRY- II
(BLOCK PLACEMENT)
Course Description:
      As the integral part of social work training that slates the students in actual field setting alongside of the cognitive training that he/ she receives as part of course work, this course aims at enabling the students to understand the various components of the specialization settings and develops skills and competencies required for effective Social Work interventions at different.

Course Outcome:
At the end of the course the students will be able to:
i. Understand and apply the methods of social work practices in Health sectors.
ii. Familiarize and utilize the documentation skills such as Genogram, Mental State Examination (MSE), case reports, verbatim, psycho social methods & therapies for wellbeing.
iii. Relate the structure and functions of Hospital Administration.
iv. Practice the models of rehabilitation and Develop insights on Medico legal challenges in health sector.
v. Equip and exhibit necessary skills and competencies relevant to Medical and Psychiatric settings.

Methodology
      This will be done by identifying the appropriate agency that would provide space for the student to transact work with the professional understanding and competency. The course coordinator and the faculty team will decide upon the selection of agencies that would offer training. Actual training comprises of work put in by the student for a 30 days in accordance with the prescription of the attached agency.
The assigned student is expected to gather a comprehensive idea on: Expanse of Illness and Disabilities; Care for challenged; Palliative care; Psychiatric Social Work; Intervention & Treatment on psychiatry; Therapeutic Intervention; Mental Health Care Services; Psychiatric Rehabilitation in context of Family & Community settings.
Specialization: Medical and Psychiatric Social Work

Course Requirement and Evaluation:
- 50% of the marks will be allotted for continuous assessment.
- Regularity in attendance, keenness to participate, readiness to learn, development of required skill, ability to conceptualize and acquisition will be tested
- The functional knowledge will be evaluated on the basis of process reports, observational reports and participatory evaluation by the faculty.
- A viva voce will be conducted at the end of the semester by a committee of which one is an external member. Performance in the viva will be evaluated for 25%.

A: Continuous Assessment:

Regularity of Attendance	15 marks
General Participation	10 marks
Skills and Competencies	15 marks
Written Reports	25 marks
Individual Presentation	10 marks
Total	**75 marks**

B: VIVA VOCE:

Conceptualization	5 marks
Working Knowledge	10 marks
Problem Solving Ability	5 marks
Consolidated Report	5 marks
Total	**25 marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6= 22/5 = 4

Semester IV   **Credit:***4*
Paper - 3   *Hr /wk: 5*
MSW 5442 SOCIAL EXCLUSION AND INCLUSION IN INDIA

Course Description:
        This course aims at helping the students to contextualize the major human mess in postmodern society, in terms of marginalization and exclusion in forms of prejudice, discrimination and oppression in the society in India and in many parts of the world in different ways.

Course Outcome:
At the end of the course the students will be able to:
i. Interpret and Construct the meaning and reality of Social Exclusion.
ii. To distinguish and identify the caste and class structure in India .
iii. Infer and relate marginalization discourse in India.
iv. Indicate the Various constitutional Obligations related to SC & ST.
v. Appraise the Social Movements relating to marginalized groups through case studies.

UNIT I: Meaning and Reality of Social Exclusion   (Hour: 18)
Social Exclusion: Meaning, Definition, Forms of social exclusion (Caste, class, religion, race and gender, ethnic groups, disability, Migrants and Refugees); History of social exclusion - Consequences of social exclusion - Social exclusion in context of Globalization, Liberalization, and Privatization. Social Inclusion: Meaning, Definition, Need and Scope.

UNIT II: Caste Class Structure in India   (Hour: 18)
Defining Caste and class in India – Caste power matrix – Impact of caste discourses - Intolerance, prejudice, discrimination, neglection, alienation, exclusion, domination and oppression. politics of caste and class in Tamil Nadu and India. Religion and religious sects as instruments of discrimination and oppression in India.

UNIT III: Discourse on Marginalization   (Hour: 18)
Understanding Marginalization – Factors contributing Marginalization – Vulnerable sections: Gender constructs - Political economy and status of women - Gender bias; Children: Child Abuse - Physical, Mental and Health; Elders: alienation and neglect of Elders – Elder abuse; Sexual Minorities: LGBTQ - Identity needs and their Rights; Religious Minorities: Meanings and dimensions of Minorities. Constitutional safeguards for religious minorities and Sexual Minorities.

UNIT IV: Constitutional Obligations (Hour: 18)
Scheduled Tribe: Major problems of Scheduled tribe in India. Constitutional safeguards to scheduled tribes, Development and welfare programme for Scheduled tribe. Contemporary approaches to Tribal Development - Role of NGOs. **Schedule Caste**: Social Reforms relating to Scheduled caste, constitutional safeguards to scheduled castes, Contemporary Dalit movements, Role of NGOs - Development and welfare programme for Scheduled caste.

UNIT V: Social Movements of the Marginalized - Case Studies (Hour: 18)
Dalits of India: Jyotirao Phule, Ambedhkar and Gandhi. The South American Campaign for Civil Rights - Campaign against the Apartheid - Women's liberation movements in India – pre and post independent initiatives. Selected Case studies: Afghanistan, India, Sri Lanka, Middle East, Eastern Europe and Northern Ireland (Not for examinations).

Text Books:
- Sharma, K. L (1998) Social Stratification in India, Rawat Publications, Jaipur.
- Thorat S.K.: Caste exclusion/ Discrimination and deprivation: The situation of Dalit in India Concept paper for DFID Delhi.
- Baraivl Beteill A (1997), Caste: Old and New, Rawat Publication, Jaipur.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

References:
- Ghurye, G.S. 2000. Caste and Race in India. Bombay. Popular Prakashan
- Sem A: 'Social exclusion: Concept application and scrutiny, Asian Development Bank, 2003
- Omvedt, G (1994), Dalits and the Democratic Revolution, Sage Publication, New Delhi.
- Shah. G (1990), Social Movements in India, Sage Publications, New Delhi.
- Beteille, A (1992) The Backward Classes in Contemporary India, Oxford University.
- Press, New Delhi.
- Shah, G (2000) Dalit and the State, Sage Publications, New Delhi

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5					5	

Mean value: 2+3+4+4+5 = 20/5= 4

Semester IV   **Credit:4**
Paper - 4   *Hr /wk: 5*
MSW 5444 URBAN COMMUNITY DEVELOPMENT IN INDIA

Course Description:
        This course on the urban community development is planned impute the concept of urbanization, Urbanism, and Urban Community Development. It helps the student to understand the unban context and theories of urbanization equal thrust. Students will be made to understand the responsibility and participation of the state in civil society engagement.

Course Outcome:
After completing this course, the students will be able to:
i. Cognize the process and trends of urbanization and urbanism.
ii. Analyze and propose solutions to the urban problems
iii. Advocate with urban development agencies to promote urban community development
iv. Apply the urban development policies for the betterment of slum dwellers and urban community development
v. Take initiatives for urban development through people's participation.

UNIT I: Urbanization   **(Hours: 18)**
Urbanization: Concept – Characteristics - Urbanization and Economic Development- Urbanization and Industrialization- Trends in urbanization process -Urbanism: Meaning and Characteristics - Theories of Urbanization – Concentric zone theory – Sector Theory – Multi-Nucleus theory.

UNIT II: Urban Determinants   **(Hours: 18)**
Urbanization and social problems – Urban Social problems: Environment issues – Air, Water, Soil, Noise Pollution – Crime – Accidents – Prostitution; Slums: Definition – Causes – Characteristics – Socio-Psychological Issues of Slum Dwellers; Unorganized/Informal sectors: concept,- characteristics; Migration – Concepts, causes, types and theories.

UNIT III: Urban Community Development   **(Hours: 18)**
Urban Community Development: Definition, Objectives and Historical context, Principles, Process and methods of Urban Community Development; Urban Development Administration: National, state and local levels; Structure and functions of Urban Development Agencies; Role of Community Development Worker: Application of Social Work method in Urban Development

UNIT IV: Urban Community Development Programmes   **(Hours: 18)**
Urban Community Development Programmes: Five year Plans and Urban Development, Urban Development Policy, Slum Clearance Board: Structure, Functions, Programmes of Slum Clearance Board, Slum Clearance Act, Housing Board-Housing and Urban Development Corporation (HUDCO), Problems in Implementation of Urban Community Development Programmes.

UNIT V: People's participation (Hours: 18)

People's participation: Concept, importance, scope and problems - Social action and advocacy in urban development, Civil society organizations and initiatives for urban community development - Case studies of best practices - Delhi project – Baroda project – Jamsedpur project – Neiveli Township model (Not for Exams)

Pedagogical approach:

Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:

- Sandhu, R.S (ed.) 2003 Urbanization in India: Sociological Contribution. New Delhi: Sage Publications

References:

- Asthana M. and Ali, Sabir, 2003, Urban Poverty in India, Mittal Publication, New Delhi.
- Muttagi P.K. 1989, Urban Development. Bombay: Tata institute of Social sciences.
- Nagpal, H. 1994 Modernization and Urbanization in India. Jaipur: Rawat Publications
- Singh, A. M. & A. De Souza, 1990.Then Urban Poor Slum and Pavement Dwellers in the Major Cities of India, Manohar Publication, New Delhi,
- Thakur, B. (ed.) 2005 Urban and Regional Development in India: Vol I New Delhi: Concept Publishing Company.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4			3			
CO5					5	

Mean value: 2+3+3+4+5= 17/5= 3

Semester IV   **Credit:***4*
Paper - 5   *Hr /wk: 5*
MSW 5446 ECOLOGY AND SOCIAL WORK PRACTICES

Course Description:
          This course aims at facilitating the students to understand the qualitative and quantitative constructs of development, more precisely the sustainable development initiative, and work out models that would minimally impact ecology and environment to fetch admirable progress and advancement in meeting the developmental needs of the community and India.

Course Outcome:
At the end of the course the students will be able to:
CO1: Associate the issues related to ecology and environment and to recommend solutions.
CO2: Analyse the Contemporary National and International Environmental Concerns.
CO3: Infer and Relate the Contributions of Environmental Movements In India & Global Scenario.
CO4: To Demonstrate and Safeguard Environmental Preservation, Management and Legislations.
CO5: To Identify and Extend the Roles and Responsibility of Social Work in Environmental Protections.

UNIT I: Composites of Environment   (Hours: 18)
Ecology and Environment: Meaning, Definitions and approaches; Society and Environment, Development and environment, Environmental degradation: Causes and consequences. Sustainability issues: Implications for livelihood security and community well-being: impact on women, poor, marginalized groups and indigenous people.

UNIT II: Contemporary Indian Environmental Concerns (Case Studies)   (Hours: 18)
Environmental problems in India - Status of India's land, water, air, forests-Development related issues: Dams and Displacement of people - Forest lands, and indigenous people - changing land using pattern- unplanned urban growth, Fuel and Energy needs – Nuclear technology. Global environmental issues

UNIT III: Environmental Movement   (Hours: 18)
Movements in India: Bishnoi movement, CHIPKO, APIKO, NBA, Silent Valley, Jungle Bachao Andholan, Tehri Dam Project, International Scenario - environmental agreements and WTO concerns.

UNIT IV: Environment Action and Management   (Hours: 18)
Environment preservation – Ministry of Environmental conservation and Forestry, Environmental Legislation- needs and importance; Environmental Justice, Eco Tourism and Eco Feminism. Environment Management: Waste Management and recycling – Sustainable development: need and importance.

UNIT V: Social Work Intervention: **(Hours:18)**
Social Work Intervention: Role of Social Workers in Environmental Protection and Development. Application of Social Work methods in creating awareness on various Environmental Issues – Civic and NGO Responsibilities.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Coates, J. 2004, *Ecology & Social Work: Towards a New Paradigm*. New York: Paul & Company Public Consortium.
- Shiva, Vandana. 1993. Eco feminism. New Delhi.

Reference:
- Alvares, Claude. 1992. Science Development and Violence. New Delhi. Oxford University Press.
- Gadgil, M. & Guha, R., 1992, *This Fissured Land: An Ecological History of India*. Delhi: Oxford University Press.
- Gadgil, M. & Guha, R.1995, *Ecology & Equity: The Use and Abuse of Nature in Contemporary India.* London: Routledge
- Nandy, Ashish. 1988. Science, Hegemony, and Violence. Oxford University Press.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5					5	

Mean value: 2+3+3+4+5= 17/5= 3

Semester IV   Credit*: 4*
Paper - 6   *Hr /wk: 5*
MSW 5448 FIELD WORK FOR DEVELOPMENT MANAGEMENT- II
(BLOCK PLACEMENT)

Course Description:
          As the integral part of social work training that slates the students in actual field setting alongside of the cognitive training that he/ she receives as part of course work, this course aims at enabling the students to understand the various components of the specialization settings and develops skills and competencies required for effective Social Work interventions at different.

Course Outcome:
At the end of the course the students will be able to:
i. Understand and apply the methods of social work practices in rural community settings.
ii. Familiarize and apply the NGO management techniques and its implications in voluntary sector.
iii. Relate the structure and functions of NGOs and NGDOs.
iv. Equip necessary project management skills and competencies to execute the projects in NGO sector.
v. Develop insight and practice social justice through civil society for further nation building.

Methodology
This will be done by identifying the appropriate agency that would provide space for the student to transact work with the professional understanding and competency. The course coordinator and the faculty team will decide upon the selection of agencies that would offer training. Actual training comprises of work put in by the student for a 30 day continuous placement in accordance with the prescription of the attached agency.
The assigned student is expected to gather a comprehensive idea on:
Forms of social exclusion and Discrimination Consequences of social exclusion on Indian society - Dimensions of Social exclusion in context of Globalization, Liberalization, and Privatization context. Factors contributing Marginalization Role of NGOs - Development and welfare programme for Scheduled caste / Tribe State & status of India's land, water, air, forests Environmental degradation: Causes and Consequences. State and the Environment preservation strategies.

Specialization:
          Development Management
Course Requirement and Evaluation:
- 50% of the marks will be allotted for continuous assessment.
- Regularity in attendance, keenness to participate, readiness to learn, development of required skill, ability to conceptualize and acquisition will be tested
- The functional knowledge will be evaluated on the basis of process reports, observational reports and participatory evaluation by the faculty.
- A viva voce will be conducted at the end of the semester by a committee of which one is an external member. Performance in the viva will be evaluated for 25%.

Part A: Continuous Assessment:

Regularity of Attendance	15 marks
General Participation	10 marks
Skills and Competencies	15 marks
Written Reports	25 marks
Individual Presentation	10 marks
Total	**75 marks**

Part B: VIVA VOCE

Conceptualization	5 marks
Working Knowledge	10 marks
Problem Solving Ability	5 marks
Consolidated Report	5 marks
Total	**25 marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6= 20/5= 4

Semester IV   Credit: *4*
Paper - 3   *Hr /wk: 5*
MSW 5462 HUMAN RESOURCE DEVELOPMENT

Course Description:
          The purpose of this course is to look at the theme of Human Resource Development (HRD) from a system point of view, working out strategies to improve human resources with a sociological perspective that ensures organizational effectiveness and deal with issues of stress, conflicts and performance through appropriate models.

Course Outcome:
At the end of the course the students will be able to:
i.Interpret and locate the scope and significance of HRD in Indian Industries
ii. Choose and apply the appropriate training methods based on the needs of the industry
iii. Construct a conducive working climate for Employee Development
iv. Demonstrate the various HRD approaches and activities for employee development.
v. Create an enabling work culture for organization effectiveness through HRD programmes

Unit I: Philosophy of HRD   (Hours:18)
Introduction to the concept and philosophy of HRD- Meaning, Definition, Scope. Importance and comparison of traditional personnel management and HRD; Elements of HRD –Training, Development and Education; Human Resource System Designing, Principles in designing HRD system - HRD at different levels- HRD in Indian Industries.

Unit II: Training Methods   (Hours:18)
Various approaches in training; Analyzing Training Needs – Identifying performance gaps and building performance measures; Choosing training methods and estimating training costs; Implementation of Training programmes; Training Evaluation – Internal and External evaluation, Kirkpatrick's 4 levels of evaluation model.

Unit III: Employee Development   (Hours:18)
Concept of Employee empowerment, Employee Development and Managerial Development; Employee participation, capacity building and competency building- Quality management as Development tool. Building Conducive Organizational Climate for Development.

Unit IV: HRD Activities   (Hours:18)
Employee development activities- Approaches: employee development, Mentoring, leadership development, action learning, assessment and development centres; Intellectual capital and HRD; HRD practices in government organisations, manufacturing and service industries.

Unit V: Organization Effectiveness & HRD   (Hours:18)
HRD climate – organizational culture facilitating Learning and development- HRD implementation: strategies and issues. Pre-requisites for successful HRD programmes. Responsive Learning Organizations - HRD experiences in India Emerging trends and perspectives: case studies.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Craich Robert, L. (1987), Training and Development - Hand book, McGraw Hill. Pub., New Delhi.
- Rao T.V. (1990), HRD Missionary, Oxford & IBH, New Delhi. Agarwal Yash, 1988, Education and HRD (Emerging challenges in the regional context), Common Welth Pub., New Delhi.

References:
- Jeya, Gopal, R. (1993), Human Resource Development - connectional analysis and strategies, sterling pub., New Delhi.
- Puranik M.V. (1988), Human Resource Development in research and development organisation, Rawat Pub., Jaipur
- Richard A. Swanson and Elwood F. Holton, 2008, Foundations of Human Resource Development, Berrett-Koehler Publishers
- Sing P.N. (1993), Developing and managing Human Resources, Scuhandra pub, Bombay.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5					5	

Mean value: 2+3+4+5+5= 14/5= 3

Semester IV   **Credit:***4*
Paper - 4   *Hr/ Wk: 5*
MSW 5464   ORGANIZATION CHANGE & DEVELOPMENT

Course Description:
          This paper defines Organization Change and Organization Development, discusses its importance and takes into consideration the Techniques and Applications of OD. It also includes discussions on Organization change related to OD Interventions that would provide for guiding a Planed Change.

Course Outcome:
At the end of the course the students will be able to:
i. Explain and classify the concept and types of Organization change
ii. Extend the different models of change in an organization.
iii. Discover and relate the scope and significance of OD in organizations.
iv. Sketch out the appropriate techniques for OD
v. Demonstrate the application of OD in various sectors.

UNIT I: Organizational Change   **(Hours:18)**
Organizational Change: Concept and Meaning, Significance; Environmental Analysis, Implications of Change; Types of change; resistance to change - Managing Change in Organizations.

UNIT II: Models and Process   **(Hours:18)**
Models and process of Organizational Change: Force-Field Analysis, Process Consultation, Normative Re-Educative Strategy, Parallel Learning Structures, Implementing change and evaluating change process;

UNIT III: Organizational Development (OD)   **(Hours:18)**
OD: concept, definition, scope, Evolution of OD; OD Interventions; Change agents- Role, skills and styles of change agents; Relation with the client system; OD Implementation: Designing-Evaluating and institutionalizing interventions; practice of Organizational Development in India and other developed and developing countries.

UNIT IV: Organizational Development Techniques   **(Hours:18)**
Group Targeted techniques: Survey Feedback, Management by Objective (MBO), Product and Service Quality Programs, team building Individual Focused techniques: Skills training, Leadership training & development, Executive coaching, Role negotiation, Job redesign, Career planning.

UNIT V: Applications of OD   **(Hours:18)**
OD in Health Care Organizations, Educational Institutions, Public Sector Organizations and virtual Organizations; Management Development: Definition, elements of formal and informal management development, types.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Ramnarayan S., T. V. Rao and K. Singh (1998): Organization Development, Response Books;
- French, W.L. and Bell, Jr. C.H.: Organizational Development, 6th ed, PHI, N. Delhi.

References:
- Brown D.R. and D. Harvey: An Experiential Approach to Organization Development, 7[th]ed, Pearson-Education, N. Delhi.
- Cummings T.G. and C.G. Worley; Organization Development and Change, 5th ed,
- Fred, Luthans (1998), Organizational Behavior, Singapore, McGraw Hill Book Com.
- John W. Newstron & Davis, Keith (2002), Organizational Behavior, New Delhi, Tata McGraw Hill –Hill
- Mumford, Alan 1993 - Management Development: Strategies for Action, the Eastern Press, Brittain.
- Paton, Robert A. & McCalman, James 2000 - Change Management, Response Books, Chennai.
- Rothwell, W. & Sullivan, R. 2005. Practicing Organizational Development

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5					5	

Mean value: 2+3+4+5+5= 19/5= 4

Semester IV   Credit*: 4*
Paper – 5   *Hr/ Wk: 5*
    MSW 5466   EMPLOYEE COMPENSATION AND WAGE ADMINISTRATION

Course Description:
        The purpose of this course is to provide in-depth knowledge about Employee's Compensation and Administration and to perceive and develop the skills appropriate to the field practices to bring out the importance and execution of Compensation management for organizational productivity.

Course Outcome:
At the end of the course the students will be able to:
i. Recall and illustrate the concept and significance of employee compensation
ii. Effectively demonstrate the wage administration in industry
iii. Explain and design appropriate mechanisms for wage fixation
iv. Categorize and create wage incentives scheme for industry
v. Connect the wage and salary policy for better employee compensation

UNIT I: Employee Compensation   **(Hours:18)**
Employee Compensation: Concept and Significance; Wage Concepts: Wage , Salary , Minimum Wage, Living Wage, Need-Based Minimum Wage, Nominal Wage and Real wage; Wage policy in India; Theories of wages.

UNIT II: Wage Administration   **(Hours:18)**
Wage Administration: Principles, Factors influencing Wage Fixation and Methods; Role of Wage Differentials: Occupational, Skill, Gender, Inter-Industry, Regional and Sectional.

UNIT III: Fixation Mechanisms   **(Hours:18)**
Wage Fixation Mechanisms: Statutory Wage fixation, Wage Boards, Collective Bargaining, Adjudication, Pay Commission; Wage Fixation in Public Sector.

UNIT IV: Wage Incentive System   **(Hours:18)**
Incentives : Principles and procedures for installing sound incentive system; Types of Wage Incentive System; Wage Incentive Schemes in India; working of incentive schemes; Fringe Benefits: Concepts and Types. Linking wage with productivity;

UNIT V: Wage and Salary policies   **(Hours:18)**
Wage and Salary policies in Organization; Role of HR Department in Wage and Salary Administration; Managerial compensation: Perquisites and special Features; Recent trends in managerial compensation in Indian Organizations and MNCs.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play, group activity, interactive debate and discussions.

Text Books:
- Kanchan Bhatia (2008), Compensation Management, Himalaya Publishing HouseK.N.
- Subramarniam (1971) , Wages in India, McGraw - Hill Publishing Company Limited

References:
- Milkovich, George T., Jerry M. Newman, and Carolyn Milkovich (2008), *Compensation*, McGraw-Hill/Irwin,. Boston
- P.R.N. Sinha (1972), Wage Determination in India, Asia Publishing House
- Pramod Verma (1987), Labour Economics and Industrial Relations, Tata McGraw-Hill6.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5					5	

Mean value: 2+3+4+5+5= 14/5= 3

Semester IV   **Credit***: 4*
Paper - 6   *Hr/ Wk: 5*
MSW 5468 FIELD WORK FOR HUMAN RESOURCE MANAGEMENT- II
(BLOCK PLACEMENT)

Course Description:
    As the integral part of social work training that slates the student in actual field setting alongside of the cognitive training that he/ she receives as part of course work, this course aims at enabling the students to understand the various components of the specialization settings and develops skills and competencies required for effective Social Work interventions.

Course Outcome:
At the end of the course the students will be able to:
i. Understand and apply the methods of social work practices in industrial settings.
ii. Familiarize and apply the HR process and its implications in the organizational sector.
iii. Relate the structure and functions of HR department in the organization.
iv. Equip necessary HR skills and competencies to execute the job in the organization.
v. Develop insight and practice the value addition by the HR department to further the business goals of the company.

Methodology
This will be done by identifying the appropriate agency that would provide space for the student to transact work with the professional understanding and competency. The course coordinator and the faculty team will decide upon the selection of agencies that would offer training. Actual training comprises of work put in by the student for 30 day continuous placement in accordance with the prescription of the attached agency.
The assigned student is expected to gather a comprehensive idea on:
    HRD programmes HRD at different levels; areas of HRD; HR Information System - Essential qualities of human relations in work place training effectiveness, evaluation of training methodology dealing with stress and performance- implementation of Japanese Style of Management-5S, Kaizen and Six Sigma - Occupational hazards social work at workplace environment.
                    Specialization: Human Resource Management

Course Requirement and Evaluation:
  * 50% of the marks will be allotted for continuous assessment.
  * Regularity in attendance, keenness to participate, readiness to learn, development of required skill, ability to conceptualize and acquisition will be tested
  * The functional knowledge will be evaluated on the basis of process reports, observational reports and participatory evaluation by the faculty.
  * A viva voce will be conducted at the end of the semester by a committee of which one is an external member. Performance in the viva will be evaluated for 25%.

A: Continuous Assessment:

Regularity of Attendance	15 marks
General Participation	10 marks
Skills and Competencies	15 marks
Written Reports	25 marks
Individual Presentation	10 marks
Total	**75 marks**

B: VIVA VOCE

Conceptualization	5 marks
Working Knowledge	10 marks
Problem Solving Ability	5 marks
Consolidated Report	5 marks
Total	**25 marks**

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean value: 2+3+4+5+6= 20/5= 4

Semester III   **Credit:2**
Paper -2   *Hr /wk: 2*
MSW 422V–Advanced Counselling

Course Description
This course will help students to develop and understand the advance concepts of counselling and acquire the skills required skills forpractices. This course introduces different typesof counselling and create an awareness on the therapeutic approaches and psychological testingemployed in counselling and guidance.

Course Outcome
At the end of the course the students will be able to:
    i.   Recognize the concepts, terminologies and practices associated with Advanced Counselling
    ii.   Discover the psycho-social issues in practice in Advanced Counselling
    iii. Analyze and distinguish the different types of counselling
    iv.   Evaluate counselee's problems and help them to rectify
    v.   Design / Compose psychological results using testing tools

Unit I: Advanced Counselling
Concepts of Guidance and Counselling – the Skill Practice Procedure – Micro Skill Counselling Format - Code of Ethics: Responsibilities to Clients, Self, Institution and Community

Unit II: Psycho Social Issues
Psychosocial Issues: Individual, Family, Work/Academic and Environmental and Socio Cultural – Psychosocial issues that require Counselling

Unit III: Types of Counselling
Developmental Counselling – Preventive Counselling – Crisis Counselling – Academic Counselling - Career Counselling – Relationship Counselling

Unit IV: Psychosocial Therapies
Individual Therapy: Visual Kinesthetics Dissociation – Gestalt Therapy – The Swish Group Therapy: Play Therapy, Expressive Art Therapy, IPR

Unit V: Psychological Testing and Reporting
Introduction to Psychological Testing - Personality Test 16PF and Self Esteem. Reporting - Genogram and Case Presentation.

Pedagogical approach:
Lecture method, power point presentations, focus group discussions, field visits, seminars, role play.

Textbook:
  • Gupta, Manju (2003). Effective Guidance & Counselling modern Methods and Techniques, Mangal Deep Publications, India.

References:
- Crow, Lester D. & Crow, Alice (1962). An Introduction to Guidance: basic principles and
- practices, Eurasia publishing House (p) LTD, New Delhi.
- Sharma, Ramnath and Sharma, Rachana (2007). Guidance and Counselling in India, Atlantic
- Publishers and Distributors, New Delhi.
- Srivastava, Sushil Kumar (2007). Career Counselling, ATLANTIC Publishers & distributors
- (P) LTD.
- Bond, Tim (2010) Standards and Ethics for Counselling in Action, SAGE Publications.
- Gibson, Robert L. & Mitchell, Marianne H. (2012) Introduction to Guidance and Counselling,Prentice Hall of India, New Delhi.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3				4		
CO4					5	
CO5						6

Mean Value: 2+3+4+5+6 =20/5 =4

Semester IV   **Credit:2**
Paper - 4   *Hr /wk: 2*
MSW 522V –Employability Skills

Course Description:
        This course on Employability Skills is planned to impute the job skills among the students. It helps the student to inherit the core skills and competencies related to contemporary Job requirements in the job market.

Course Outcome:
After completing this course, the students will be able to:
   i.   Identify the skills required for employment
   ii.   Articulate the communications inherited in them
   iii. Complete to fulfil the presentation skills as required by the job market
   iv.   Modify themselves to adapt to the work environment where they fit in.
   v.   Design to transform their self identity and self development.

Unit 1 Job Skills   **(Hour: 5)**
Soft Skills: An Introduction – Definition and Significance of Soft Skills; Process, Importance and Measurement of Soft Skill Development

Unit 2 Communication skills   **(Hour: 7)**
Communication Skills – Reading, Writing, Speaking and Listening; Interview Skills, Group Discussion Skills.

Unit 3 Presentation Skills   **(Hour: 7)**
Presentation Skills: Types, Content, Audience Analysis, Essential Tips – Before, During and After, Overcoming Nervousness; Resume Writing- methods and types.

Unit 4 Professionalism   **(Hour: 5)**
Etiquette and Manners – Social and Business places - Professionalism and Display at Work Space, Time Management – Concept, Essentials, Tips.

Unit 5 Personality   **(Hour: 6)**
Personality Development – Meaning, Nature, Features,; Learning Skills; Adaptability Skills; Emotional Intelligence: Meaning, Strategies to enhance Emotional Intelligence.

Pedagogical approach:
Lecture method, PowerPoint presentations, focus group discussions, role play, group activity, interactive debate and discussions.

Text Book:
   ● Mitra,Barun K, .Personality Development and Soft Skills, Oxford Publications, 2011

References:
1. Managing Soft Skills for Personality Development – edited by B.N.Ghosh, McGraw Hill India, 2012.
2.English and Soft Skills – S.P.Dhanavel, Orient Blackswan India, 2010.

Mapping of Course Outcomes (COs) with Bloom's Taxonomy (K1 to K6)

CO/K	K1	K2	K3	K4	K5	K6
CO1	1					
CO2			3			
CO3			3			
CO4						6
CO5						6

Mean Value: 1+3+3+6+6 =19/5 =4

POSTGRADUATE DEPARTMENT OF FOOD SCIENCE & NUTRITION
w.e.f. 2020-2021

Semester	Course Code	Course Title	Hours	Credits	Marks
I	PFN 4401	Advances in Food Science	5+1	4	80
	PFN 4403	Food Chemistry	5+1	4	80
	PFN 4305	Applied Physiology	4+1	3	60
	PFN 4407	Advanced Food Microbiology	5+1	4	80
	PFN 4309	Laboratory in Advances in Food Science	3	3	60
	XXX 0000	Elective	4	3	60
		Total	**30**	**21**	**420**
II	**PFN 4402**	**Nutrition Through Life Cycle**	**5+1**	**4**	**80**
	PFN 4404	**Advanced Nutritional Biochemistry**	**5+1**	**4**	**80**
	PFN 4406	**Food Investigation Techniques**	**5+1**	**4**	**80**
	PFN 4308	**Research Methodology and Biostatistics**	**4+1**	**3**	**60**
	PFN 4310	Laboratory in Food Analysis	3	3	60
	XXX0000	Elective	4	3	60
		Total	**30**	**21**	**420**
		Summer Internship			
III	PFN 5501	Drug- Nutrient Interactions	5+1	5	100
	PFN 5503	Food Packaging	5+1	5	100
	PFN 5405	Functional Foods and Nutraceuticals	5+1	4	80
	PFN 5407	Food Biotechnology	5+1	4	80
	PFN 5309	Laboratory in Food Biotechnology and Microbiology	3	3	60
	PFN 5311	Project work	3	3	60
		Total	**30**	**24**	**480**
IV*	PFN 5504	Clinical Nutrition and Diet Therapy	5+1	5	100
	PFN 5302	Laboratory in Clinical Nutrition and Diet Therapy	4	3	60
	PFN 5304	Food Processing and Preservation	4	3	60
	PFN 5506	Industrial visit and Report	5+1	5	100
	PFN 5810	Project report	10	8	160
		Total	**30**	**24**	**480**

*   Electives (Any two)

Courses offered by the Department of Food science and Nutrition to Non-Major Students:

Elective Courses

SEM	Course No.	Course Title	Hrs.	Cr	Marks
I	PFN 4311	Exercise and Sports Nutrition	4	3	60
	PFN 4313	Food Service Management	4	3	60
II	PFN 4314	ObstetricsandNeoNatal Nutrition	4	3	60
	PFN 4316	Nutrition in mental health	4	3	60
	PFN 4318	Ethnic foods (Tamil Traditional Foods)	4	3	60
		Total	**8**	**6**	**120**

(Any two electives per year)

Certificate Courses offered by the Department of Food sciences & Nutrition:

Value Added Courses

SEM	Course No.	Course Title	Hrs/ wk	Cr
I	PFN 421V	Value added products from millets	2	2
II	**PFN 422V**	**Good Manufacturing Practices in Food Industry**	**2**	**2**
III	PFN521V	Nutrition Counseling	2	2
IV	**PFN522V**	**Nutrition and Immunity**	**2**	**2**
		Total	**8**	**8**

PFN 4402   **Nutrition Through Life Cycle**   **(5+1=6hrs/wk) (4cr)**

The course aims at helping the students to provide a detailed view of the nutritional foundations necessary for human growth, development, reproduction, health and well-being in each stage of the human life cycle.

Upon completion of this course, the student will be able to:
  i.   Apply knowledge of the science of nutrition to human health across the lifespan
  ii.   Retrieve, critically evaluate and apply scientific evidence to a contemporary nutritional requirement and health issue during pregnancy and lactation
  iii. Assess nutritional requirements relative to infants.
  iv.   Discuss about the nutrition during preschool and school going
  v.   Know about the changes in growth pattern during nutrition in adolescence and oldage.

Unit1:   **(15 hrs)**
Introduction about food: Definition - Nutrition, Nutrient, Health, Guidelines of good health, recommended dietary intake, Factors affecting RDA, Uses of RDA, Sources of nutrients in food, Functions of nutrients in food, Balanced diet, Nutrition deficiency disorder

Unit2:   **(15 hrs)**
Nutrition in pregnancy: Physiological changes in pregnancy, developmental stages of the embryo, complications in pregnancy, hormonal changes during pregnancy, nutrient requirements, RDA
Nutrition in lactation: Physiological adjustments during lactation, Diet of lactating women, nutrient requirements, RDA

Unit3:   **(18 hrs)**
Nutrition during infancy: Physiological development, Nutrition during infancy, composition of human milk and cow milk, formula preparation, weaning, supplementary and complementary feeding, growth monitoring, and premature infants, nutrient requirements, RDA

Unit 4:
Nutrition during preschool and school going : Eating habits and behaviour, growth, packed lunch, Children growth and development during preschool, nutrient requirements, RDA

Unit 5:   **(15 hrs)**
Nutrition in adolescence: Changes in growth pattern, puberty, menarche, changes in food habits, nutritional disorders, psychological and peer group pressure on eating habits, factors influencing food intake, nutritional concerns – anorexia and bulimia, nutrient requirements RDA

Nutrition in adult hood and old age: Factors influencing nutritional influence**,** physicalactivity and energy relationship, theories of aging, physiologic changes, Nutritient requirements, RDA

Text books:
1. Srilakshmi B. (2018) Dietetics, New Age International (P) Ltd,Publishers.
2. Swaminathan M (1985) Advanced Text Book on Food and Nutrition. Vol.II. BAPPOO, No.88, Mysore Road,Bangalore.

References:
3. Whiteny EN and Cataldo CB (1983)Understanding normaland clinical Nutrition. West Publishing Company,NewYork.
4. Krause M V and Mohan L K (1984) Food, Nutrition and Diet Therapy. W. B. Saunders company,Philadelphia.
5. Passmore R and East Wood M A (1987) Human Nutrition and Dietetics. English Language Book Society/ Chruchill,Livingstone.
6. Robinson C H, Lawber M R, Chenoweth W L and Garwick A E (1986) Normal and Therapeutic Nutrition. Seventh Edition, Mc Millan Publishing company,NewYork.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2		4	5	6
CO2		2	3	4		
CO3	1	2		4	5	6
CO4	1	2	3	4		
CO5		2	3		5	6

Mean=3.33

PFN4404   **Advanced Nutritional Biochemistry**   **(5+1=6hrs/wk) (4cr)**

The course deals with the metabolism and biochemistry of the carbohydrates, lipids, proteins and other related compounds. It enables an understanding of the physiological mechanisms of action of various nutrition related processes.

Upon completion of this course, the student will be able to:
  i. Understand the basic knowledge of the regulation of integrated metabolic pathways within cells and tissues and about bioenergetics.
  ii. Discuss the metabolism of proteins and biosynthesis of nucleotides.
  iii. Explain about the lipid metabolism and oxidative stress.
  iv. Summarize the regulation of metabolism.
  v. Impart knowledge on enzymes and hormonesand their role in pathology.

Unit 1:   **(15 hrs)**
Metabolic pathways: Carbohydrates – Aerobic and anaerobic degradation, glycogenesis, glycogenolysis, gluconeogenesis, HMP shunt pathway. Hormonal regulations of blood glucose. Bioenergetics – Principles of bioenergetics, free energy – endergonic and exergonic process, role of high energy compounds in energy storage, formation of ATP- Biological oxidation and electron transport chain.

Unit 2:   **(16 hrs)**
Protein and amino acids: Protein degradation, fate of nitrogen (urea cycle), metabolism of aromatic, sulfur containing, BCAA and other amino acid pool. Glutamine and alanine cycle, protein biosynthesis. Nucleic acids- metabolism of nucleic acid components, biosynthesis of nucleotides.

Unit 3:   **(16 hrs)**

Lipids: Metabolism of triaclyglycerol, oxidation of fatty acids, cholesterol. Regulation of lipid metabolism and ketone bodies. Oxidative stress and antioxidants – Free radicals – definition, formation in biological systems, defense against free radicals. Role of free radicals and antioxidants in health and disease. Determination of free radicals, lipid peroxides and antioxidants.

Unit 4:   **(12 hrs)**
Regulation of metabolism: Interrelationship of carbohydrate, protein and lipid metabolism, Role of Vitamins and Minerals in Metabolism, metabolic adaptation during starvation, exercise, stress and diabetes mellitus.

Unit 5:   **(16 hrs)**
Enzymes and Hormones: Classification, Chemical nature - Enzyme inhibition, enzyme pattern in diseases. Hormones: Classification – synthesis - regulatory functions and mechanism of hormone action - Prostaglandin – structure, biosynthesis, metabolism and biological action and their role in pathology.

Text Book:
  1. Murray, R.K., Graner, D.K., Mayes, P.A. and Rodwell, V.W. (2000): 25th Ed. Harpers Biochemistry Macmillan Worth Publishers.

References:
1. Nelson, D.L., and Cox, M.M. (2000): 3rd Ed. Lehninger's Principles of Biochemistry, Macmillan Worth Publishers.
2. Conn, E.E., Stumpf, P.K., Bruening, G. and Doi, R.H. (2001): 5th Ed. Outlines of Biochemistry, Heinemann Medical Books Ltd.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO 1	1	2		4		
CO 2		2		4	5	
CO 3		2	3		5	
CO 4		2			5	
CO 5	1	2	3	4		6

Mean = 3.2

PFN4406   **Food Investigation Techniques**   **(5+1=6hrs/wk) (4cr)**

Food analysis is a diverse and interdisciplinary field of research that has a significant health, societal and economic impact. It aims to characterize food products in terms of chemical composition, traceability, safety, quality, sensory perception and nutritional value. Food analysis approaches are used by industry, government/control agencies and academia.

Upon completion of this course, the student will be able to:

 i. Apply statistically valid sampling techniques to food materials having widely diverse properties and volumes.
 ii. Evaluate the principles and methods for the physical and rheological analyses of foods. Evaluation of test methods.
 iii. Analyze the basic principles and method for the proximate analysis of food.
 iv. Demonstrate competency in the use of standard techniques of food analysis and the treatment of experimental data.
 v. Identify modern instrumental methods to analyze chemical and physical properties of foods.

Unit 1:   **(15 hrs)**
Food Sampling and evaluation. Concepts of food analysis; Sampling, purpose, Types of sampling, factors considering for sampling, Sampling as per FSSA 2006 and sampling procedures for liquid, powdered and granular materials.

Unit 2:   **(20 hrs)**
Physical and rheological properties of food analysis: Determination of pH, titrable acidity, bulk density; total dissolved solids using refractometer; viscosity of food using viscometer; texture analysis and different types of texture analyzing equipments.

Unit 3:   **(20 hrs)**
Proximate analysis of food: Different methods of determination of moisture; ash content of food- wet and dry ashing, protein and amino acids in foods; determination of total fat in food; determination of total carbohydrates, starch, dietary fiber and simple sugars in foods.

Unit 4:   **(20 hrs)**
Spectrophotometric analysis of food: Basic Principles- analysis of food additives-IR Spectroscopy in online determination of components in foods; AAS and ICP-AES in mineral elements and toxic metals analysis; antioxidant assay; use of fluorimeter in vitamin assay.

Unit 5:   **(15 hrs)**
Separation techniques: Basic Principles, application of electrophoresis, chromatography, immunoassay techniques in food analysis and other separation techniques.

Textbook:

 1. Fung, D.Y.C. and Matthews, R. (1991): Instrumental Methods for Quality Assurance in Foods, Marcel Dekker, Inc. New York.

References

1. Skoog, D.A., Holler, F.H. and Nieman (1998): Principles of Instrumental Analysis Saunders College Publishing, Philadelphia.
2. Gruenwedel, D.W.; Whitaker, J.R. (editors) (1984): Food Analysis Principles and techniques, Volumes 1 to 8, Marcel Dekker, Inc., New York.
3. Herschdoerfer, S.M. (ed) (1968 – 1987): Quality Control in the Food Industry, Vols. 1 to 4, Academic Press, London.
4. Pomeranz, Y. and MeLoan, C.E. (1996): Food Analysis: Theory and Practice; 3rd Edition, CBS Publishers and Distributors, New Delhi.
5. Wilson and John Walker, Principles and Techniques of Biochemistry and Molecular Biology (2010), Keith Wilson and John Walker, Cambridge University Press.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO 1	1		3			6
CO 2				4	5	
CO 3	1	2				
CO 4			3			
CO 5			3	4		6

Mean=3.5

PFN 4308   **Research Methodology and Biostatistics**   **(4+1=5h/wk) (3cr)**

This course has two parts. First part deals with research methodology, research problem and methods of data collection. The second part deals with statistics and data analysis using statistical tools.

Upon completion of this course, the student will be able to:
  i.   outline various kinds of research, objectives of doing research, research process, research designs and sampling
  ii. demonstrate qualitative, quantitative and mixed methods research, as well as relevant ethical and philosophical considerations
  iii. apply measurement & scaling techniques as well as the quantitative data analysis in research
  iv. analyse the criteria that can be used to select an appropriate statistical test to answer a research question or hypothesis
  v.   discuss the link between quantitative research questions and data collection and how research questions are operationalized in educational practice

Unit 1: Research Problem   **(12 hrs)**

Meaning of Research, Objectives Types of Research, Research Approaches - Significance of Research- Research and Scientific Method - Importance of Research - Research Process - Criteria of Good Research - Research Problem: Selecting the Problem - Defining the Problem - Technique Involved in Defining a Problem - Justification, theory, hypothesis, basic assumptions, limitations and delimitations of the problem

Unit 2: Report Writing and Quality Parameters   **(12 hrs)**

Interpretation and report writing- meaning of interpretation technique, precautions, format of research report, types, steps and stages, mechanism and style, essential of good report - Synopsis, Research paper, Review article, Poster preparation, Oral presentations. Plagiarism: Avoiding Plagiarism during documents, thesis, manuscripts, scientific writing. Bibliographic index and research quality parameters: citation index, impact factor, h- index, i10 index, etc

Unit 3: Introduction of Biostatistics   **(10 hrs)**

Meaning and its scope; Population and Sample. Parameter and Statistics; types of statistical data; Diagrammatic & Graphic representation of data; Methods of collecting primary data- Questionnaire, preparation of schedules, interview method, case- study method, Experimentation method,

Unit 4: Data Analysis   **(12 hrs)**

Sources of Secondary data, precautions while using secondary data. Editing and coding the data, Organization of data, classification- meaning and objectives, types of classification, formation of discrete and continuous frequency distribution, Tabulation – role, parts of a table, general rules of tabulation, types of tables. Mean, Median, Mode, Standard deviations, Coefficient of Variation, Skewness and Kurtosis. Probability – Definition, Addition and Multiplication theorem.

Unit 5: Parametric Tests (14 hrs)

Concepts of Hypothesis - Null, Alternative Hypothesis, Type I and type II errors, Sampling Distribution Standard error t & F distribution: t test based on single samples, two sample mean, paired samples, F test two sample variances, F test for several mean (one-way, two-way ANOVA). MS- excel & SPSS in data analysis.

Textbook:
1. Kothari C.R. (2014) Research Methodology Methods & Techniques, New age international publisher.

References:
1. Myra L. Samuels, Jeffrey A. Witmer, Andrew Schaffner. (2012). Statistics for the Life Sciences, 4ᵗʰ edition. Prentice Hall.
2. John A. Rice. (2010). Mathematical Statistics and Data Analysis, Duxbury Press.
3. John M. Lachin. (2010). Biostatistical Methods: The Assessment of Relative Risks, 2nd Edition, Wiley-Blackwell Pub.
4. Snedecor, George, W.Cochran and William, G. (1967). Statistical Methods, Sixth edition, Oxford and IBH Publishing Co., Oxford.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO 1	1	2	3	4		
CO 2	1	2	3	4		
CO 3				4	5	6
CO 4	1	2	3	4	5	6
CO 5		2	3	4	5	6

Mean = 3.45

PFN422V   GOOD MANUFACTURING PRACTICES IN FOOD INDUSTRY   (2hr/wk) (2cr)

The objective of this Certificate Course Good Manufacturing practices in Food Industry provides a comprehensive overview on the best practices regarding management of manufacturing good quality safe products and deliver products with good efficacies.

Course Outcomes
Upon completion of this course, the student will be able to:
  i.   Understand the GMP regulation, laws, polices
  ii.   Identify the concept of clean design and process validation
  iii. Analyse guarantee of high quality products to the consumers
  iv.   Deal with the hazards of food contamination during handling of food
  v.   Gain an in- depth knowledge on the concept of food safety procedures
  vi.

Unit1:   **(5hrs)**
Introduction to GMP and Food Industry: Scope, History, Aims, Principles of GMP, Advantages of GMP, importance of GMP.

Unit 2:   **(8hrs)**

Aspects of GMP concerning area: Premises, Sanitation, Personnel hygiene, Clothing, Food Handling Practices, Equipment, Containers, Utensils, Production and Process Control, Receiving and Storage, Packaging and Labelling, Warehousing and Distribution, Documentation.

Unit 3:   **(6hrs)**

Agency and Regulations: Food Safety Standards, Quality Assurance (QA), ISO, HACCP, Standard Operating Procedures (SOP), Critical Control Point (CCP),

Unit 4:   **(6hrs)**

Qualification and Validation: Types of validation, Risk Assessment, Documentation, Record Keeping.

Unit 5:   **(5hrs)**

Good handling practice: Packaging, Storage, Transportation, Warehouse, Distribution, Inspection and Quality Audits, Visit Manufacturing Industry and Report Writing.

Text books:

1) Chaloner-Larsson, G., Anderson, R., Egan, A., Da Fonseca Costa Filho, M. A., Gomez Herrera, J. F., & World Health Organization. (1999). A WHO guide to good manufacturing practice (GMP) requirements.World Health Organization.
2) Cramer, M. M. (2013). Food plant sanitation: design, maintenance, and good manufacturing practices. CRC Press.

References:

1) Sarvari, M., Alavi-Moghadam, S., Larijani, B., Rezazadeh, I., & Arjmand, B. (2020). Principles of Good Manufacturing Practice. In Biomedical Product Development: Bench to Bedside. Springer, Cham.
2) Singh, R. (2006). Introduction to basic manufacturing processes and workshop technology. New Age International.

Blooms's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2		4		
CO2	1	2		4		
CO3		2		4	5	
CO4	1	2	3		5	6
CO5			3	4	5	6

Mean = 3.33

PFN 522V   **NUTRITION AND IMMUNITY**   **(2hrs/wk) (2cr)**

This course aims to impart insight knowledge on the role of nutrients in the immune system, understanding the basics of the gut-brain connection and inter relationship between nutrition and infection.

Course Outcomes

Upon completion of this course, the student will be able to:

  i.   Understand the basic concept of nutrition and its role in immune system
 ii.   Gain knowledge on the immunological aspects
iii.   Discuss the effects of nutrition on immune system
 iv.   Impart knowledge on gut-brain axis function
  v.   Gain an in-depth knowledge on the concepts of nutrition and infection

Unit 1: Nutrition and Immunity   **(5 hrs)**

Definition, nutrition and health, macronutrients and micronutrients,antioxidants, phytochemicals and probiotics, role of nutrition in immune system.

Unit 2: Immune system   **(6 hrs)**

Immunity:definition and types, physiology and functions of immune system, Immune system of the gut, Immune mechanisms in stress, auto immunity and hypersensitivity.

Unit 3: Effects of nutrition on immunity   **(8 hrs)**

Immunonutrition,Role of individual nutrients in the inflammatory response and functions, effects of under nutrition on immunity, dietary factors which alter the immune response.

Unit 4: Gut-Brain connection   **(6 hrs)**

Understanding the basics of the gut-brain connection, nutrition and modifications of gut-brain axis function.

Unit 5: Nutrition and infection   **(5 hrs)**
Introduction to infection, Relationship between nutrition and infection.Definition of immunization, Introduction to food borne illness.

Textbook:

1. Textbook of Human Nutrition by Agarwal , Udipi, Jaypee brothers Medical Publishers.

References:
1. Gibson, G.R. and M.B. Roberfoid (1999), Calonic microbiota, Nutrition and Health.Kulwer Academic Publishers, Dordecht.
2. Chandra, R.K. and Newberne , P.M., Nutrition immunity and infection. Plenum Pres 1982.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2			5	
CO2	1	2	3	4		6
CO3			3	4	5	6
CO4			3	4		6
CO5					5	

Mean=3.75

UNDERGRADUATE DEPARTMENT OF TAMIL

VALUE ADDED COURSES

w.e.f. 2020-2021

SEM	COURSE CODE	COURSE TITLE	Hrs/Wk	Cr.
II	TAM 122V	பயன்பாட்டு இலக்கணம்	2	2
IV	TAM 222V	கிறித்தவ இலக்கியம்	2	2
VI	TAM 322V	திரையிசைப்பாடல்களும் பொருளிலக்கணமும்	2	2

TAM 122V   பயன்பாட்டு இலக்கணம்   **2 Hrs/ 2 Cr.**

நோக்கம்:

தமிழ்மொழியின் எழுத்துமற்றும் சொல்லிலக்கணத்தைமுறையாகப் பயிலும் மாணவர்,அவற்றைச் சமூக இயங்குவெளியுடன் ஒப்பிட்டுப் பார்த்தறிதலும்,காலந்தோறும் சமூகப் புழங்குதளத்தில் மாற்றம் பெற்றுவந்துள்ளதமிழ்மொழியின் போக்குகளைஅடையாளங் காணச் செய்தலும் இப்பாடத்தின் நோக்கங்களாகஅமையப்பெறுகின்றன.

கற்றலின் பயன்:

1. இலக்கணவரலாற்றினைஅறிதலோடு, இருவகைவழக்குகளைப் பாகுபடுத்திஅறிந்துகொள்வர்.
2. புதியஉருபுகளின் தோற்றப் பின்புலத்தைஅறிவதோடு,அவற்றைத் தொன்மை இலக்கண உருபுகளோடுபொருத்திப் பார்க்கும் திறன் பெற்றிருப்பர்.
3. தமிழ் மொழிப் பேச்சுவழக்கில் கலப்புற்றபிறமொழிச் சொற்களைப் பிரித்தறியும் திறன் பெற்றிருப்பர்.
4. பயன்பாட்டில் உள்ளபல்துறைசார்ந்தகுழூஉச் சொற்களைச் சேகரிப்பதன் வழி அவற்றின் பொருளைவிளங்கிக் கொள்வர்.
5. அன்றாடம்,பார்க்கும்,கேட்கும் செய்திகளிலுள்ள இலக்கணப் பிழைகளை இனங் காண்பர்.

கூறு 1–மொழி - இலக்கணம் - பயிலுதல் நோக்கம் - இலக்கணவரலாறு–பேச்சு வழக்கு– எழுத்துவழக்கு–ஒலிமாற்றம் - சொற்பொருள் மாற்றம்.   (6 மணி)

கூறு 2–பயன்பாட்டிலுள்ளவேற்றுமைஉருபுகள் - புதியவேற்றுமைஉருபுகளின் வரவு– வழக்கொழிந்த இடைச்சொற்கள் - பேச்சுவழக்கில் புதிதாகத் தோற்றம் பெற்ற இடைச்சொற்களை இனங் காட்டுதல்   (6 மணி)

கூறு 3–பல்லவர்,களப்பிரர்களின் ஆட்சியாலும் அயல்நாட்டினரின் கூட்டுறவாலும் பேச்சுவழக்கில் கலந்துள்ளவடசொற்கள் - மேலைத்தேயச் சொற்கள் - திராவிட மொழிக் குடும்பச் சொற்களைஅறியச் செய்தல்.   (6 மணி)

கூறு 4 –வட்டாரமொழிகள் - தொழிற் சார்ந்த சொற்களஞ்சியத்தை அறிதல் சேகரித்தல் - வரலாறு பண்பாட்டுச் சூழல்களால் தமிழ் மொழியில் உருப்பெற்ற சொற்பயன்பாடுகள் .   (6 மணி)

கூறு 5–பெயர்ப்பலகைகளில்,விளம்பரங்களில் காணப்பெறும் இலக்கணப் பிழைகளைக் கண்டறியச் செய்தல் - வானொலி,தொலைக்காட்சி,புலனக் குழுக்களில் பயன்படுத்தப்படும் மொழிநடையைவிளக்குதல்.   (6 மணி)

பார்வை நூல்கள் :

1. ராபர்ட் கால்டுவெல்,திராவிடமொழிகளின் ஒப்பிலக்கணம்,திருமகள் நிலையம், 1992.
2. தெ.பொ.மீனாட்சிசுந்தரனார்,தமிழ் மொழிவரலாறு,முல்லைநிலையம், 2007.
3. பொற்கோ, இலக்கணஉலகில் புதியபார்வை,- 1,2,3 NCBH, 2012.

Bloom's Taxonomy	K 1	K 2	K 3	K 4	K 5	K 6
CO1	1					
CO2	1	2				
CO3	1	2	3			
CO4	1	2	3	4		
CO5	1	2	3	4	5	

MEAN :2.3

TAM 222V   கிறித்தவ இலக்கியம்   **2 Hrs/ 2 Cr.**

நோக்கம்:

கிறித்தவர்கள் தமிழ்மொழிக்கும், தமிழிலக்கியத்திற்கும் செய்த தொண்டுகளை அறிதலும், கிறித்தவர்கள் படைத்தளித்த இலக்கியங்கள் மூலமாகக் கிறித்தவத்திற்கும் தமிழுக்கும் இடையேயான இணக்கமான போக்கினை உணர்தலும் இப்பாடத்தின் நோக்கங்களாகும்.

கற்றலின் பயன்கள்:

1. கிறித்தவர்கள் தமிழ் மொழிக்கும் இலக்கியத்திற்கும் ஆற்றியதொண்டுகளைக் குறித்து அறியும் வாய்ப்பினைப் பெறுவார்.
2. கிறித்தவக் காப்பியங்கள்,சிற்றிலக்கியங்கள் ஆகியவற்றைத் தெரிந்துகொள்வர்.
3. கிறித்தவக் கீர்த்தனைகள் பயில்வதன் மூலமாகஅவர்களின் பக்திநெறிகளைஅறிந்து கொள்வர்.
4. கிறித்தவஅறங்களையும்,போதனைகளையும் தெரிந்துகொள்வர்.
5. கிறித்தவத்திற்கும் தமிழுக்குமிடையேயான இணக்கமானபோக்கினைஉணர்ந்துகொள்வர்.

கூறு : 1 - கிறித்தவர்களின் தமிழ்த்தொண்டு - அச்சு இயந்திரத்தின் வருகை - மேலைநாட்டுக் கிறித்தவர்களின் பங்களிப்பு - தமிழ்நாட்டுக் கிறித்தவர்களின் பங்களிப்பு(6 மணி)

கூறு : 2 - தேம்பாவணி - ஐயம் தோற்றுபடலம் - கிறிஸ்துவின் பிறப்பு   (6 மணி)

கூறு : 3 - பெத்லகேம் குறவஞ்சி- தேவமோகினிகாதல்   (6 மணி)

கூறு:4 - கிறித்தவக்கீர்த்தனைகள் - மாயூரம் வேதநாயகம் பிள்ளை - சர்வசமய சமரசக் கீர்த்தனை - சத்தியவேதக் கீர்த்தனைபுதுக்கவிதைகள் - பிரான்ஸிஸ் கிருபா (6 மணி)

கூறு : 5 - சிறுகதைகள்: 1. 'ஒலிக்கவில்லை' - ஆர்.எஸ்.ஜேக்கப், 2. 'குடில்'- கார்த்திகா ராஜ்குமார், 3. 'மிஷன் தெரு' - தஞ்சைபிரகாஷ்   (6 மணி)

பாட நூல்கள் : - துறைவெளியீடு

1. மரியஅந்தோணி,(உ.ஆ.,),**'தேம்பாவணி'**,உயிர்எழுத்துபதிப்பகம்,சென்னை. 2014.
2. வீரமாமுனிவர் **'பெத்லகேம் குறவஞ்சி'**சே.சுந்தரராசன் (உ.ஆ.,),முல்லைநிலையம், சென்னை -17.
3. **'கிறிஸ்தவபாமாலைப் பாடல்கள்'**இகிறிஸ்தவ இலக்கியச் சங்கம்,சென்னை.

பார்வை நூல்கள் :

1. அ. கா. பெருமாள் - தமிழ் இலக்கியவரலாறு,சுதர்சன் வெளியீடு,நாகர் கோவில்.
2. சீனிவேங்கடசாமி. மயிலை.,கிறித்தமும் தமிழும். தென்னிந்தியசைவசித்தாந்த நூற்பதிப்புக் கழகம்,திருநெல்வேலி. 1936.
3. கா. மீனாட்சிசுந்தரம்,ஐரோப்பியர்தமிழ்ப்பணி,சென்னைப் பல்கலைக்கழகம்,சென்னை. 2003

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3	1	2	3			
CO4	1	2	3	4		
CO5	1	2	3	4		

MEAN :2.1

TAM 322V திரையிசைப்பாடல்களும் பொருளிலக்கணமும் **2 Hrs/ 2 Cr.**

நோக்கம்:

பொருளிலக்கணம் திரையிசைப் பாடல்களில் பயின்றுவருவதைஅறிந்து கொள்வதும், பாடலின் சுவைக்கு இலக்கணம் உறுதுணையாக அமைவதைத்தெரிந்து தெளிவதும் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழ் அகப்பொருள் இலக்கணம் வாழ்வியலோடுதொடர்புடையதுஎன்பதைஅடையாளங் காணும் திறன் பெற்றிருப்பர்.
2. தொடக்ககாலத் திரைப்படங்களில் பாடல்கள்கீர்த்தனைகளைஅடியொற்றி இருந்த தன்மையைஒப்பீட்டுஆராயும் திறன் பெற்றிருப்பர்.
3. காட்சிரீதியாகப் பாடல்களைக் கையாள்வதைவிடபாடல் வரிகளில் மிகச் சிறந்த பங்களிப்பைக்கையாண்டதன்மையைமதிப்பீடுசெய்யும் ஆற்றலைப் பெற்றிருப்பர்.
4. நாட்டுப்புறஅழகியலையும்,கலாச்சாரக் கூறுகளையும் திரைப்படபாடல்களில் பயன்படுத்தப்பட்டபுரிதல்களைப் பயிற்சிஅடிப்படையில்கண்டுஅவற்றை வெளிப்படுத்தும் திறன்களைப் பெற்றிருப்பர்.
5. தற்காலவாழ்வியலைஉள்வாங்கியநிலைகளில் பிறந்தபாடல்கள் இலக்கணம் மீறிய பாங்கினைக் கண்டறியும் திறன் பெற்றிருப்பர்.

கூறு 1:அகப்பொருள் இலக்கணம் - கைக்கிளை,அன்பின் ஐந்திணை,பெருந்திணை,மற்றும் களவு,கற்புவகைப்பாடும் விளக்கமும். (6 மணி)

கூறு 2: 1930 – 1950 களுக்கு இடைப்பட்டபாடல்கள் - (தெரிவுசெய்யப்பெற்றபாடல்கள்) (6 மணி)

கூறு 3: 1950 – 1970 களில் வெளிவந்தபாடல்கள் - (தெரிவுசெய்யப்பெற்றபாடல்கள்) (6 மணி)

கூறு 4: 1970 – 1990 கள் வரை - (தெரிவுசெய்யப்பெற்றபாடல்கள்) (6 மணி)

கூறு 5: 1990 –தற்காலகாலம் வரைவெளிவந்தபாடல்கள் - (தெரிவுசெய்யப்பெற்ற பாடல்கள்) (6 மணி)

பாடநூல்: (துறைவெளியீடு)

தேர்ந்தெடுக்கப்பட்டதிரையிசைப் பாடல்கள்.

துணைநூற் பட்டியல்:

1. அறந்தைநாராயணன் - தமிழ் சினிமாவரலாறு–NCBH, 2000
2. அஜயன் பாலா - தமிழ் சினிமா வரலாறு–பாகம் - 1 (1916–1947) நாதன் பதிப்பகம் 2020
3. A.V.M.சரவணன் - தமிழ் சினிமாவரலாறுபாகம் - 1 –தந்திபப்ளிகேஷன் 2014.
4. யுகபாரதி - காதல் பிசாசே.மித்ரவெளியீடு
5. இரா. பிரபாகர்–சினிமா– ஓர் அறிமுகம் - கனவுப்பட்டறை– 2003

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3	1	2	3			
CO4	1	2	3	4		
CO5	1	2	3	4	5	

MEAN : 2.3

DEPARTMENT OF HINDI

Value Added Courses

w.e.f. 2020 – 2021

SEM	Course No.	Course Title	Hr/wk	Credit
II	HIS 122V	संवादलेखन (Samvadlekhan)	2	2
IV	HIS 222V	पर्यटन (Paryatan)	2	2
VI	HIS 322V	तकनीकीशब्दावली (TakneekiSabdavali)	2	2

HIS 122V   संवादलेखन   **2Hrs./2crs.**
                                (Samvadlekhan)

The aim of this course is to develop an independent out look towards the study of language and their conversational skills. The course encourage the student to learn Hindi for effective communication in different fields in day-to-day life.

At the end of the course students will be able to
  i.   get the knowledge of sentences write in Hindi.
  ii.   develop their conversational fluency as well as accuracy.
  iii. understand the dialogue writing in Hindi.
  iv.   improve their communication al power.
  v.   enhance their translation skill.

इकाई -1 – संवादक्याहै?
इकाई – 2 – घरमेंऔरपाठशालामें
इकाई – 3 – हवाईअड्डेऔरयात्रामें
इकाई – 4 – बाजारऔरत्योहारमें
इकाई – 5 – साक्षात्कारमें

Text Book:
Prepared by the course teacher.

References :
1. Agasthiar Hindi Learning and Speaking Course, Dr. S. Soumyanarayanan, Agasthiar Publications, NandhiKoil Street, Teppakulam, Trichy – 620 002.
2.Subodh Hindi rachna-1, Dhakshin – 3, Dakshin Hindi Bharath Hindi Prachar Sabha, T.nagar, Chennai-17, First Edition – September 2010
3. Jai Hindi Grammar, ShriN.Gurumoorthy, Jai Publications, 34. Thanikachalam Road, Near Hindi Pracharsabha, T.Nagar, Chennai-17

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	Remembering K1	Understanding K2	Applying K3	Analyzing K4	Evaluating K5	Creating K6
CO1	3					
CO2		4				
CO3			4			
CO4			4			
CO5						4

Means – 3.8

HIS 222V   पर्यटन   **2Hrs/2Crs**
                                          (Paryatan)

The aim of this course is to encourage the Students to learn various culture and tradition of India by visiting different tourism places.

At the end of the course students will be able to
   i.   get the knowledge of tourism.
   ii.   obtain the knowledge of southern culture.
   iii. describeabout the Indian tradition.
   iv.   identify the historical events.
   v.   asses the merits and demerits of tourism.

इकाई -1 पर्यटन - परिचय
इकाई -2तिरुमलैनायक्करमहलऔरतंजाऊरमहल
इकाई -3 मैसूरमहलऔरवृंदावन
इकाई -4 ताजमहलऔरहवामहल
इकाई -5 पर्यटन- लाभऔरहानि

Text Books:
1. https://hi.wikipedia.org/wiki/**पर्यटन**
2. https://epustakalay.com/book/27723-bharat-ke-atihasik-evm-paryatan-asthal-by-ramesh-chandra/

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	Remembering K1	Understanding K2	Applying K3	Analyzing K4	Evaluating K5	Creating K6
CO1	2					
CO2		4				
CO3			3			
CO4				4		
CO5						5

Means – 3.6

HIS 322V   तकनीकीशब्दावली   **2 Hrs./2Crs.**
                                        (TakneekiSabdavali)

The aim of this course is to create the interest to the students to learn about the Technical Hindi words.

At the completion of this course, the students will be able to
i. know the scientific glossaries.
ii. obtain the knowledge of legal words.
iii.improve the skill of business glossaries
iv. use the commercial language.
v. inculcate the writing skill of advertisement.

इकाई -1 – वैज्ञानिकशब्दावली

इकाई – 2 – कानूनीशब्दावली

इकाई – 3 – व्यापारिकशब्दावली

इकाई – 4 – वाणिज्यिकशब्दावली

वाइकाई –5 – विज्ञापन

Text Books:
1. PrayojanmoolkHindi,VinodhGodhre,VaniPrakashan,New Delhi,Edition:2004-2009

References:
1. PrayogikHindi :SamanvayaEvamSampadhan:RameshGoutham ,Lekhan:RajBardhvaj, ShanjaysinghBahel,JithendhraveerKalra,OrientPublication,Delhi University
2.Aadhunickhindivyakaranswaroopevamprayog, Dr. BharathiKhubalkar,SahniPrakashan

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	Remembering K1	Understanding K2	Applying K3	Analyzing K4	Evaluating K5	Creating K6
CO1	4					
CO2		2				
CO3			3			
CO4			3			
CO5						5

Means – 3.4

RESEARCH DEPARTMENT OF ENGLISH

Proposed Grid for B.A. English from June 2020 Batch Onwards

Sem	Part		Course Code	Course Title	Hours	Credits	Marks
I	I		TAM/FRE/ HIN		3	2	30
	II		ENG 1201	Conversational Skills	3	2	30
	III	Core	ENG 1481	Intro to Eng Studies	5	4	60
			ENG 1483	British Prose I	4	4	60
			ENG 1485	Sports Literature	4	4	60
		Supportive	ENG 1587	History of EngLitI	5	5	75
	IV	*Non-Major Elective	ENG 1231	Intro to Cinema	3	2	30
		Life Skill I	ENG 1223	Eng for Comm	3	2	30
			Total		**30**	**25**	**375**
II	I		TAM/FRE/ HIN		3	2	30
	II		ENG 1202	Reading & Writing Skills	3	2	30
	III	Core	ENG 1482	British Poetry I	5	4	60
			ENG 1484	British Fiction I	4	4	60
			ENG 1486	British Drama I	4	4	60
		Supportive	ENG 1588	History of Eng Lit II	5	5	75
	IV	*Non-Major Elective	ENG 1232	Science Fiction	3	2	30
		Life Skill II	ENG 1224	Word Power	3	2	30
	V	Extension		NSS/NCC/SLP	2	2	
			Total		**30+2**	**25**	**375**
III	I		TAM/FRE/ HIN		3	2	30
	II		ENG 2201	Study Skills	3	2	30
	III	Core	ENG 2581	British Poetry II	5	5	75
			ENG 2483	British Prose II	4	4	60
			ENG 2585	British Fiction II	5	5	75
			ENG 2587	Indian Lit in Eng	5	5	75
		Supportive	ENG 2489	Critical Read & Write	5	4	60
			Total		**30**	**27**	**405**

IV	**I**		TAM/FRE/ HIN		**3**	**2**	**30**
	II		**ENG 2202**	**Career Skills**	**3**	**2**	**30**
	III	**Core**	**ENG 2582**	**British Poetry III**	**5**	**5**	**75**
			ENG 2584	**British Drama II**	**5**	**5**	**75**
			ENG 2586	**American Lit**	**5**	**5**	**75**
		Supportive	**ENG 2488**	**Lit Trans**	**5**	**4**	**60**
		Innovative	**ENG 2490**	**Writing for Media**	**4**	**4**	**60**
	V	**Extension**		**Extension Activity NSS/NCC/SLP**	**2**	**1**	
			Total		**30+2**	**27+1**	**405**
V	**III**	Core	ENG 3691	British Fiction III	6	6	90
			ENG 3693	Literary Criticism	6	6	90
			ENG 3695	Varieties of English	6	6	90
		Innovative	ENG 3597	Human Rights & Lit	5	5	75
	IV	Life Skill III	ENG 3299	Creative Writing in Eng	3	2	30
		VAL	VAL	Value Education	4	2	30
			Total		**30**	**27**	**405**
VI	**III**	Core	ENG 3692	Crit Approaches to Lit	6	6	90
			ENG 3694	Asian Fiction in Eng	6	6	90
			ENG 3696	Teaching Eng as II Lang	6	6	90
		Innovative	ENG 3598	Cont Tamil Fict in Trans	5	5	75
	IV	Life Skill IV	ENG 3204	EnvStudies & Lit	3	2	30
		Life Skill V	ENG 3206	English for Placement	4	2	30
			Total		**30**	**27**	**405**
			Grand Total		**180+4**	**158+2**	**2370**

*Courses offered to Non-Major Students by the Department of English

Sem	Course Code	Course Title	Hours	Credits	Marks
		Part III Supportive			
I	ENG 1468	History of Eng Lit I	5	4	60
II	ENG 2468	History of Eng Lit II	5	4	60
III	ENG 2488	Lit Trans	5	4	60
IV	ENG 2489	Critical Read& Writ	5	4	60
	Total		**20**	**16**	**240**
		Part IV Non-Major Electives			
I	ENG 1231	Intro to Cinema	3	2	30
II	ENG 1232	Science Fiction	3	2	30
	Total		**6**	**4**	**60**
		Part IV Life Skills Courses			
I	ENG 1223	Eng for Comm	3	2	30
II	ENG 1234	Word Power	3	2	30
V	ENG 3299	Creative Writing in English	3	2	30
VI	ENG 3206	English for Placement	3	2	30
	Total		**12**	**8**	**120**
		Value Added Courses			
I	ENG 121V	Punctuation	2	2	-
II	**ENG 122V**	**Preposition**	**2**	**2**	**-**
III	ENG 221V	Tenses	2	2	-
IV	**ENG 222V**	**Sentence Skills**	**2**	**2**	**-**
V	ENG 321V	Travel Writing	2	2	-
VI	**ENG 322V**	**Content Writing**	**2**	**2**	**-**
	Total		**12**	**12**	**-**

Internal and External Evaluation Pattern

General Question Pattern
Section A: Multiple Choice Question – 20 – 20 Marks
Section B: Paragraphs/Annotation – Internal Choice 5 x 7 Marks = 35 Marks
Section C: Essays – Open Choice – 3/5 X 15 Marks = 45 marks
Total = 100 Marks

1. Poetry & Drama
   i) Annotation with three specific questions: (2 + 2 + 1)
   ii) Paragraph
   iii) Essay
2. Prose & Fiction, Linguistics, Survey, Literary Forms & Terms, ELE, Criticism, National Literatures, Creative Writing
   i) Paragraph
   ii) Essay
3. Three-hour courses of two-hour exam duration – Maximum 60 Marks
   i) MCQ – 10 x 1 = 10 Marks
   ii) Paragraph 4/6 x 5 Marks = 20 Marks
   iii) Essay 3/5x10=30 Marks
4. Conversational Skills, Spoken English, Pronunciation Skills
   i) 100% Oral
5. Word Power & English for Competitive Exams
   i) Different types of objective questions such as match-the-following, MCQ, fill-in-the-blanks, rewrite-the-following…

Internal and External Examiners are expected to set both objective and descriptive questions that test students' knowledge, comprehension, application, analysis, evaluation, and creativity.

Programme Specific Outcomes (PSOs) for B.A. English

Upon completion of the program, graduates will be able to

1. write well-organized and well-developed text-based paragraphs and essays;

2. identify and recall literary facts and concepts;

3. annotate and explain passages from prose, poetry and drama;

4. critically compare and contrast characters from the fictional world;

5. relate issues in fictional world to real life;

6. respond to social, ethical, political, cultural, environmental, and moral issues and dilemmas;

7. distinguish between opinions and facts;

8. pursue higher studies in Education, English, multidisciplinary courses, journalism and mass communication, and translation; perform well in competitive examinations, IELTS, TOEFL, public service examinations, and banking;

9. fluently communicate their ideas in English; and

10. learn, unlearn, and relearn as lifelong learners.

Mapping of Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
ENG 1201								✓	✓	✓
ENG 1481	✓	✓	✓	✓		✓	✓		✓	✓
ENG 1483	✓	✓	✓	✓		✓	✓			✓
ENG 1485	✓	✓	✓	✓	✓	✓	✓		✓	✓
ENG 1587		✓		✓	✓	✓		✓	✓	
ENG 1231				✓	✓	✓	✓		✓	✓
ENG 1233						✓	✓	✓	✓	✓
ENG 1202	✓						✓	✓	✓	✓
ENG 1482		✓	✓	✓	✓	✓		✓	✓	
ENG 1484		✓	✓	✓	✓	✓		✓	✓	
ENG 1486		✓		✓	✓	✓			✓	
ENG 1588		✓		✓	✓	✓		✓	✓	
ENG 1232		✓		✓	✓	✓		✓	✓	
ENG 1234		✓				✓	✓	✓	✓	✓
ENG 2201	✓						✓	✓	✓	✓
ENG 2581		✓	✓	✓	✓	✓		✓	✓	
ENG 2483	✓	✓	✓	✓		✓	✓			✓
ENG 2585		✓	✓	✓	✓	✓		✓	✓	
ENG 2587	✓	✓	✓	✓	✓	✓		✓		
ENG 2489	✓						✓	✓	✓	✓
ENG 2202							✓	✓	✓	
ENG 2582		✓	✓	✓	✓	✓		✓	✓	
ENG 2584		✓		✓	✓	✓			✓	
ENG 2586	✓	✓	✓	✓	✓	✓		✓		
ENG 2488	✓	✓				✓	✓	✓		✓
ENG 2490	✓				✓	✓	✓	✓	✓	✓

Mapping of Programme Specific Outcomes (PSOs) with Programme Outcomes (Pos)

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
PSO 1	✓	✓	✓	✓	✓			✓	✓	✓
PSO 2	✓		✓	✓	✓		✓	✓	✓	✓
PSO 3	✓	✓	✓	✓	✓		✓	✓	✓	✓
PSO 4	✓		✓	✓	✓		✓	✓	✓	✓
PSO 5						✓	✓	✓	✓	✓
PSO 6	✓	✓	✓	✓	✓			✓	✓	✓
PSO 7	✓	✓	✓	✓	✓			✓	✓	✓
PSO 8	✓	✓	✓	✓	✓			✓	✓	✓
PSO 9	✓	✓	✓	✓	✓		✓	✓	✓	✓
PSO 10	✓	✓	✓	✓	✓		✓	✓	✓	✓

ENG 2581   **British Poetry II**   **5 Hrs./5 Cr.**
                         (British Poetry II)

       Thecourse introduces students to Romantic and Victorian poetry. It offers an insight into traditional forms of British poetry prevalent during this period (18th and 19th Century). The course highlights the use of imagination and intuition, and idealization of nature propagated by the romantic poets and bohemian ideas implemented by the Victorian poets.

At the end of this course, the students will be able to
  i.   understand the essential elements of Romantic and Victorian poetry,
  ii. analyze spiritual, supernatural elements in romantic poetry,
  iii. infer themes of celebration of nature, artistic creativity and imagination in romantic poetry,
  iv. examine medieval myths and folklore in Victorian poetry, and
  v.   explicate the use of sensory devices and imagery in Victorian poetry.

Unit 1   **Introduction**   **(10 Hours)**
                   Features of Romantic poetry like Pastoral life, Medievalism, Hellenism, Supernaturalism, Libertarianism and Exoticism.
                   Characteristics of Victorian poetry like Use of sensory elements, Imagery to convey the struggles between religion and science, Ideas about nature and romance, Reclaiming of the past, Revival of both classical and medieval literature of England.

Unit 2   **Romantic Poetry I**   **(15 Hours)**
                   William Wordsworth   "Daffodils" (SS)
                                               "Composed upon Westminster Bridge"
                   Samuel Taylor Coleridge   "Kubla Khan, Or, A Vision in a Dream: A Fragment"

Unit 3   **Romantic Poetry II**   **(15 Hours)**
                   John Keats   "Ode to a Nightingale"
                   P.B. Shelley   "Ozymandias"
                   William Blake   "Tyger, Tyger"
                   Lord Byron   "She Walks in Beauty" (SS)
                                               "When We Two Parted"

Unit 4   **Victorian Poetry I**   **(20 Hours)**
                   Tennyson   "Ulysses"
                   Robert Browning   "My Last Duchess"
                   Mathew Arnold   "Dover Beach"
                   Elizabeth Barret Browning   "How do I Love Thee?" (Sonnet 43)
                                                              (SS)

Unit 5   **Victorian Poetry II**   **(15 Hours)**
                   G.M. Hopkins   "The Windhover" (SS)
                                               "God's Grandeur"
                   Dante Gabriel Rossetti   "The Blessed Damozel"
                   Christina Rossetti   "Remember"

References

1. Bowra, Maurice. *The Romantic Imagination*. OUP, 1999.
2. Green, David. *The Winged Word*. Laxmi Publications, 2018.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2	1	2	3	4	5	
CO3	1	2	3	4	5	
CO4	1	2	3	4	5	
CO5	1	2	3	4	5	
Mean			2.8			

ENG 2483 **British Prose II** **4 Hrs./ 4 Cr.**
(British Prose II)

The course introduces students to modern prose of the 20th and 21st centuries. It focuses on various categories of prose with political, philosophical, social and scientific perspectives. It also enables students to critically analyse the style and trace the evolution of the genre in contemporary times.

At the end of the course, students will be able to
  i.   integrate political ideas of well-known writers,
  ii. assess the writings of women in modern times,
  iii. evaluate ideas from various fields like philosophy and psychology,
  iv. deduce the message conveyed by the Nobel laurates, and
  v.   appraise the eco-values of the modern age.

Unit 1	**Political Prose**	**(12 Hours)**
	George Orwell	"Shooting an Elephant"
	Rudyard Kipling	"Independence"
	E.M. Forster	"What I Believe" from *Two Cheers of Democracy*

Unit 2	**Women's Writing**	**(12 Hours)**
	J.K. Rowling	"Fringe Benefits of Failure"
	Doris Lessing	"Group Minds"
	Zadie Smith	"Take It or Leave It"

Unit 3	**Philosophy and Psychology**	**(12 Hours)**
	Aldous Huxley	"The Beauty Industry"
	H.G. Wells	"The Beginnings of the Mind and Language" from *Mankind in the Making*

Unit 4	**Nobel Prize Acceptance Speech**	**(12 Hours)**
	Harold Pinter	"Art, Truth, and Politics"
	Kazuo Ishiguro	"My Twentieth Century Evening and Other Small Breakthroughs: The Nobel Lecture"
	Bertrand Russel	"What Desires are Politically Important"

Unit 5	**Nature and Environment**	**(12 Hours)**
	Hilaire Belloc	"A Conversation with a Cat"
	Robert Lynd	"Why We Hate Insects"
	A.A. Milne	"A Village Celebration"

References
1. Boulton, Marjorie. *The Anatomy of Prose.* Kalyani Publishers, 1993.
2. Dobree, Bonamy, Ed. *Modern Prose Style.* Clarendon Press, 1934.
3. Holocomb, Chris and M. Jimmie Killingsworth. *Performing Prose: The Study and Practice of Style in Composition.* Southern Illinois University Press, 2010.
4. Strunk, William, and E.V. White. *The Elements of Style.* Longman, 1999.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2		4		
CO2		2		4	5	
CO3		2		4	5	
CO4		2		4	5	
CO5		2		4	5	
Mean			3.5			

ENG 2585   **British Fiction II**   **5 Hrs./5 Cr.**
                         (British Fiction II)

      Sequential to British Fiction I, thecourse aims to introduce and trace the evolution of the English novel since the 19th century. It enables students to analyse the themes, structure and style in the works of this century and distinguishes between the various types of 19th century fiction.

At the end of the course, students will be able to
    i.   understand how domestic novels of 19th century, embody the characteristics of the Victorian feminine ideal,
    ii.   examine how novel gained cultural respectability by redefining itself as a medium of national representation,
    iii.   analyse how the prevailing social problems of gender, race and class prejudice is dramatized by depicting a cross-section of classes, social groups and regional characters.
    iv.   evaluate how 19th century Gothic fiction utilizes elements such as supernatural encounter, remote locations, complicated family histories, dark secrets and mysteries to create an atmosphere of suspense and terror, and
    v.   identify the instructional and informative quality of didactic writings in the 19th century.

Unit 1	**Domestic**	**(17 Hours)**
	Jane Austen	*Mansfield Park*
Unit 2	**Historical**	**(17 Hours)**
	Sir Walter Scott	*Ivanhoe*
Unit 3	**Social**	**(19 Hours)**
	Charles Dickens	*Oliver Twist*
Unit 4	**Gothic**	**(17 Hours)**
	Charlotte Bronte	*Jane Eyre*
Unit 5	**Didactic**	**(5 Hours)**
	George Eliot	*Silas Marner* (SS)

References
1. Watt, Ian. *The Victorian Novel: Modern Essays in Criticism.* OUP, 1976.
2. Wheeler, Michael. *English Fiction of the Victorian Period: 1830-1890.* Longman, 1985.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2		4	5	
CO2		2		4	5	
CO3		2		4	5	
CO4		2		4	5	
CO5		2		4	5	
	Mean	3.6				

ENG2587   **Indian Literature in English**   **5 Hrs./5 Cr.**
                          (Indian Lit in English)

The course aims at introducing students to the rich corpus of Indian Literature English. It will chart the evolution of Indian Literature written in English and Translation since the time of political independence from the British colonial rule. It explores the innovative and artistic use of English in expressing Indian sensibilities. Through a range of authors and genres it will enable students to investigate modern Indian subjectivities, histories and politics.

At the end of the course, students will be able to
   i.   identify themes and techniques in Indian English poetry,
   ii. recognize politics of language and nation,
   iii. critique early novels in the postcolonial scenario,
   iv. identify themes in Indian stories, and
   v.   analyse the development of theatre as an art form in India.

Unit 1	**Poetry**	**(16 Hours)**
	Tagore	"Where the Mind is without Fear" from *Gitanjali*(SS)
	A.K. Ramanujan	"A River"
	Nissim Ezekiel	"Enterprise"
	Jayanta Mahapatra	"Dawn at Puri"
	Kamala Das	"The Old Playhouse"
	Agha Sahid Ali	"Postcard from Kashmir"
	Shiv K. Kumar	"Pilgrimage"
	Vikram Seth	"The Frog and the Nightingale"
	Mamta Kalia	"Tribute to Papa"

Unit 2	**Drama**	**(18 Hours)**
	Asif Currimbhoy	*The Dumb Dancer*
	Girish Karnad	*Tughlaq*

Unit 3	**Prose**	**(8 Hours)**
	Raja Rao	Foreword to *Kanthapura*
	Arundhati Roy	"The End of Imagination" from *My Seditious Heart*
	Amartya Sen	"India through its Calendars"

Unit 3	**Novel**	**(23 Hours)**
	Mulk Raj Anand	*Untouchable*
	Aravind Adiga	*The White Tiger*

Unit 5   **Short Story**   **(10 Hours)**

R.K. Narayan	"A Horse and Two Goats" (SS)
Khushwant Singh	"Karma" (SS)
Shashi Deshpande	"A Liberated Woman"
Anita Desai	"The Farewell Party" (SS)
Gita Hariharan	"The Remains of the Feast"
Salman Rushdie	"The Free Radio"
Rohinton Mistry	"The Swimming Lessons"

References

1. George, K.M. *Modern Indian Literature, an Anthology: Plays and Prose*. Sahitya Akademi, 1994
2. Iyengar, Srinivasa K.R. *Indian Writing in English.* Sterling Publishers Pvt. Ltd., 1983.
3. King, Bruce. *Modern Indian Poetry* (Revised Edn.) OUP, 2001.
4. Narasimhaiah, C.D. (Ed.) *An Anthology of Commonwealth Poetry.* Macmillan India Ltd., 1990.
5. Pathak, R.S. *Indian Fiction in English: Problems and Promises.* Northern Book Centre, 1990.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	6
CO2	1	2	3	4		6
CO3	1	2		4	5	6
CO4	1	2		4	5	6
CO5	1	2		4	5	6
Mean	3.4					

ENG 2489   **Critical Reading & Writing**   **5 Hrs./4 Cr.**
                      (Critical Read & Write)

      The course aims at enabling students to create critical understanding of literary texts. It helps them develop the ability to use analytical and critical approaches, think synthetically and logically, and write using analysis, synthesis and evaluation.

At the end of the course, students will be able to
   i. articulate the links between ideas and the importance and significance of arguments and ideas,
  ii. appraise arguments, inconsistencies, and errors in reasoning,
 iii. reflect in a consistent and systematic way on their own assumptions about the text,
 iv. demonstrate in writing, fluency (generating ideas), flexibility (shifting perspectives easily), originality (conceiving of something new), and elaboration (building on other ideas), and
  v. evaluate the style and structure of the text, language, and content.

Unit 1	**Argumentative Analysis**	**(15 Hours)**
	Ernest Hemingway	"Hills like White Elephants"
		"A Clean Well-Lighted Place"
	Guy de Maupassant	"The Necklace"
	O. Henry	"The Cop and the Anthem"

Unit 2	**Rhetorical Analysis**	**(20 Hours)**
	James Joyce	"Araby"
	Stephen Crane	"The Open Boat"
	Jamaica Kincaid	"What I have been Doing Lately"
	N.S. Madhavan	"When the Big Tree Falls"
	Jhumpa Lahiri	*Interpreter of Maladies*

Unit 3	**Explication**	**(15 Hours)**
	James Baldwin	"Sonny's Blues"
	Ambai	"My Mother, Her Crime"
	D.H. Lawrence	"Horse Dealer's Daughter"
	Kate Chopin	"Story of an Hour"

Unit 4	**Critical Writing**	**(15 Hours)**
	Anton Chekov	*The Bear: A Joke in One Act,* or *The Boor*

Unit 5	**Evaluation of Writing**	**(10 Hours)**
	H.G. Wells	*The Invisible Man* (SS)

Reference
   1. Barnet, Sylvan and William E. Cain. *Short Guide to Writing about Literature,* 12[th]edn. Pearson, 2014.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3	4	5	6
CO2			3	4	5	6
CO3			3	4	5	6
CO4			3	4	5	6
CO5			3	4	5	6
Mean	4.5

ENG 2582   **British Poetry III**   **5 Hrs./5 Cr.**
                          (British Poetry III)

The course aims to acquaint the students with various styles, trends, and movements of British poetry from the 20th century to the present. The course focuses on the unconventional and anti-rhetorical discourses of the modern poets and on the revolution of techniques introduced by Imagists, symbolists, and other modernist movements. It further enhances the students' level of thinking as they approach and analyze poems critically.

At the end of this course, students will be able to
  i.   analyse poetic traditions of Georgian and Edwardian period,
  ii. identify imagism, symbolism, and other features employed in modern poetry,
  iii. explore the disillusionment and disintegrations of modern society caused by war and other political activities,
  iv. critique reformative and idealistic principles of contemporary poetry,
  v.   evaluate non-traditional verse form of contemporary poems.

Unit 1	**Modern Poetry I**	**(15 Hours)**
	T.E. Hulme	"A City Sunset"
	F.S. Flint	"Poems in Unrhymed Cadence"
	A.E. Houseman	"To an Athlete Dying Young"
	W.H. Auden	"The Shield of Achilles"

Unit 2	**Modern Poetry II**	**(20 Hours)**
	D. H. Lawrence	"Snake"
	T.S. Eliot	"A Love Song of Alfred J. Prufrock"
	W.B. Yeats	"Easter 1916"
	Dylan Thomas	"Do Not Go Gentle into that Good Night" (SS)

Unit 3	**War Poetry**	**(10 Hours)**
	Siegfried Sassoon	"Aftermath" (SS)
	Wilfred Owen	"Anthem for Doomed Youth"
	Rupert Brooke	"The Soldier"
	Robert Graves	"Recalling War"

Unit 4	**Contemporary Poetry I**	**(15 Hours)**
	Stephen Spender	"He will Watch the Hawk"
	Carol Ann Duffy	"Valentine"
	Philip Larkin	"Ambulances"
		"Church Going"
	Seamus Heaney	"Digging" (SS)
		"Bog Land"

Unit 5	**Contemporary Poetry II**	**(15 Hours)**
	Ted Hughes	"Hawk Roosting"
	Basil Bunting	"From Briggflatts: An Autobiography"
	Eavan Boland	"Quarantine"
	Andrew Motion	"Holy Island"

References
1. Ellmann, Richard, and Robert O'Clair. *The Norton Anthology of Modern Poetry.* Norton, 1973.
2. Larrisy, Edward. *Reading Twentieth Century Poetry.* Basil Blackwell, 1990.
3. Wain, John. *Anthology of Modern Poetry.* Hutchinson, 1963.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2		4	5	
CO2	1	2		4	5	
CO3	1	2		4	5	
CO4	1	2		4	5	
CO5	1	2		4	5	
Mean	3					

ENG 2584 **British Drama II** **5 Hrs./5 Cr.**
(British Drama II)

The course introduces students to different types of drama during the late 19th and 20th centuries.. It allows them to have a better understanding of British society, tradition, culture and language. It highlights how modern dramatists integrated realistic, naturalistic and absurd elements in their attempt at characterizing humankind.

At the end of this course, students will be able to
  i.   appraise various aspects of drama and theatre,
  ii. identify drama and performance as a cultural process and an artistic discourse,
  iii. interpret drama texts as aesthetic records,
  iv. evaluate plot structure, characterization, and
  v.   point out the use of setting and lighting in the performance of the play.

Unit 1   **Social Realism**   **(15 Hours)**
           G. B. Shaw   *Pygmalion*

Unit 2   **Modern Comedy**   **(15 Hours)**
           John Galsworthy   *The Silver Box*

Unit 3   **Angry Young Men**   **(15 Hours)**
           John Osborne   *Look Back in Anger*

Unit 4   **Comedy of Menace**   **(15Hours)**
           Harold Pinter   *The Birthday Party*

Unit 5   **Revenge Tragedy**   **(15 Hours)**
           T. S. Eliot   *Family Reunion*

References
  1. Innes, Christopher. *Modern British Drama 1890-1990.* CUP, 1992.
  2. Lewis, Allan, *American Plays and Playwrights of the Contemporary Theatre.* Crown Publishers, 1970.
  3. Nicholson, Steve. *Modern British Playwriting: The 1960s.* Bloomsbury Publishers, 2012.
  4. Watson, G.J. *Drama: An Introduction.* Macmillan, 1983.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2	3	4	5	
CO2	1	2	3	4	5	
CO3	1	2	3	4	5	
CO4	1	2	3			
CO5	1	2	3	4	5	
Mean	3.08					

ENG 2586   **American Literature**   **5 Hrs./5 Cr.**
                          (American Lit)

        The 19ᵗʰ and 20ᵗʰ century American literary scene witnessed the emergence of a distinctive American voice that distinguished them from their British counterparts and this new impetus was carried forward through the succeeding centuries. This gave rise to a truly indigenous literature with the modernist impulse of using fragments of history, of memory and of existing social realities to create works with epic ambition. This course intends to introduce students to the various literary genres of American Literature that reflect the changing dimension of the society from the days of the American Dream, the Harlem Renaissance, through Transcendentalism to the post World War development era.

At the end of the course, students will be able to
   i.   analyse the distinctive American idiom that explored the landscape and traditions of their native country as materials for poetry,
  ii.   critique the concepts of individualism, feminism and abolitionism as the fundamental premise for liberation and social change,
 iii.   evaluate the salient features of American fiction as a powerful expression of social commentary,
 iv.   distinguish the various literary trends exhibited by the prominent writers of fiction, and
  v.   examine the importance of drama in raising the conscience of people to social injustices.

Unit 1   **Poetry**   **(18 Hours)**
                          Edgar Allen Poe   "The Raven"
                          H W Longfellow   "The Cross of Snow"
                          Carl Sandburg   "Chicago"
                          Langston Hughes   "Mother to Son"
                          Robert Hayden   "Middle Passage"
                          Louise Gluck   "Aboriginal Landscape"
                          Emily Dickinson   "Because I could not stop for Death"
                          Walt Whitman   "O Captain! My Captain!" (SS)

Unit 2   **Drama**   **(15 Hours)**
                          Eugene O'Neil   *The Hairy Ape*
                          Lorraine Hansberry   *A Raisin in the Sun*

Unit 3   **Prose**   **(10 Hours)**
                          Ralph Waldo Emerson   *Self-Reliance* (Excerpts)
                          Martin Luther King Jr.   "I Have a Dream" (SS)

Unit 4   **Fiction**   **(22 Hours)**
                          Herman Melville   *Billy Budd*
                          Harper Lee   *To Kill a Mockingbird*

Unit 5   **Short Fiction**   **(10 Hours)**
         Edgar Allen Poe   "The Black Cat" (SS)
         Mark Twain   "The Celebrated Jumping Frog of
                                        Calaveras County
         Ernest Hemingway   "The Snows of Kilimanjaro"
         Stephen Vincent Benet   "The Devil and Daniel Webster"

References
1. Cunliffe, Marcus. *The Literature of United States.* Penguin, 1970.
2. Fisher, William J. *American Literature of Ninetieth Century: An Anthology.* Eurasia Publisher, 1984.
3. Hart, James D. *the Oxford Companion to American Literature.* OUP, 1995.
4. Oliver, Eggert S. *American Literature 1890-1965: An Anthology.* Eurasia Publisher, 1986.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3	4		
CO2				4	5	6
CO3	1	2	3	4		
CO4	1	2	3			
CO5				4	5	
Mean	3.4					

ENG 2488   **Literary Translation**   **5 Hrs./4 Cr.**
                                     (Lit Trans)

         The course traces the history of translation and its significance. It enables students to analyse different problems of translation and find solution to the problems by applying different translation theories, techniques and methods. Thrust is given to translation practice of literary passages.

At the end of the course, students will be able to
     i.   discuss theories of translation,
    ii.   address problems in translation,
   iii.   identify the problems in translating poetry,
   iv.   apply various translation techniques in translating fiction, and
    v.   practice translating drama.

Unit 1   **Translation Theories**   **(20 Hours)**
                 Early theories by theorists like Horace, Cicero, Dryden, Shelley, Matthew Arnold and Alexander Pope. Modern Theories of Edward Fitzgerald, Eugene Nida, George Steiner, and Theodore Savory. Various methods of translation like metaphrase, paraphrase, transliteration, trans creation, and transference.

Unit 2   **Problems in Translation**   **(10 Hours)**
                 Cultural and linguistic untranslatability, Generic differences.

Unit 3   **Translating Poetry**   **(15 Hours)**
                 Translation of poems from English to Tamil, and Vice-versa.

Unit 4   **Translating Fiction**   **(15 Hours)**
                 Translation of excerpts from fiction.

Unit 5   **Translating Drama**   **(15 Hours)**
                 Translation of excerpts from drama.

References
1. Bassnet, Susan McGuire. *Translation Studies.* Routledge, 1998.
2. Bassnet, Susan McGuire and Harish Trivedi. *Post-Colonial Translation: Theory and Practice.* Routledge, 2000.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3		2	3	4		
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean	3.5					

ENG2490   **Writing for Media**   **4 Hrs./4 Cr.**
                     (Writing for Media)

       The course aims at developing the students' ability to use the English language for different forms of Media by introducing the key concepts in Language and Media.

At the end of the course, students will be able to
   i.   write articles and cover stories for print media,
   ii. apply concepts of broadcast media while designing programmes,
  iii. create content for social media,
  iv. develop and structure advertisements, and
   v. create scripts for various visual media.

Unit 1   **Writing for the Press**   **(12 Hours)**
                    Analyzing Newspaper articles, Media Discourse, Planning and Writing Newspaper Articles, Composing Magazine Cover, Planning and writing a cover story.

Unit 2   **Writing for Broadcast Media**   **(12 Hours)**
                    The language of Radio and Television programmes, Writing Screen Plays, and Writing Film Reviews.

Unit 3   **Writing for Social Media**   **(12 Hours)**
                    Mobile Assisted Language Learning (MALL), English and Social Media, Communication through Social Media, Web Communication, Writing Content for Web Pages, Using Blogs and Webinars.

Unit 4   **Writing Advertisements**   **(10 Hours)**
                    The language of radio and television programs, writing screenplays, writing film revies, writing jingles for advertisements.

Unit 5   **Writing Scripts**   **(14 Hours)**
                    Planning visuals and converting visuals to words, Developing and writing scripts.

References
1. Ahuja, B.N. *Audio Visual Journalism,* Surjeet Publications, 2005.
2. Ceramella, N. & Lee, E. *Cambridge English for the Media.* Routledge, 2008.
3. Durant, A. & Lambrou, M. *Language and Media.* Routledge, 2009.
4. Marshall, J. & Wendell, A. *The Language of Television.* Routledge, 2005.
5. Reah, D. *The Language of Newspapers.* Routledge, 2008.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2	3	4	5	6
CO2	1	2	3	4	5	6
CO3	1	2	3	4	5	6
CO4	1	2	3	4	5	6
CO5	1	2	3	4	5	6
Mean			3.5			

ENG 122V   **Preposition**   **2 Hrs./2 Cr.**

        The course familiarizes students with preposition and its usage. It focuses on different categories of prepositions based on their functions. It enables students to construct sentences using appropriate prepositions.

At the end of the course, students will be able to
   i.   apply proper preposition in relation to time period,
  ii.   employ preposition to locate the position,
 iii.   relate the movement of the subject with preposition,
 iv.   apply preposition with reference to the instrument, origin, and cause, and
  v.   understand how preposition transforms verb into phrasal verbs.

Unit 1   **Preposition of Time**   **(6 Hours)**
                at, in, on, for, during, since, by, until, before, after, to, and past.

Unit 2   **Preposition of Location**   **(6 Hours)**
                at, in, on, by, beside, between, behind, above, over, below, and under

Unit 3   **Preposition of Direction**   **(6 Hours)**
                to, from, over, under, along, around, across, through, into, towards, onto, off, up, and down

Unit 4   **Preposition of Agent, Measure, Source, Purpose and Possession (6Hours)**
                by, with, without, of, from

Unit 5   **Phrasal Verbs**   **(6 Hours)**

References
  1. Gupta S.C., and Gupta K. *English Prepositions*. Arihant Publications, 2012.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3			
CO2		2	3			
CO3		2	3			
CO4		2	3			
CO5		2	3			
Mean		2.5				

ENG 222V   **Sentence Skills**   **2 Hrs./2 Cr.**
                          (Sentence Skills)

      Good writing skills are crucial for both academic and career success. The ability to write clearly and efficiently can transform a complex and challenging writing activity into a more creative, exciting and fulfilling writing experience. Ability to write starts with ability to write sentences. Learning sentence skills is one of the primary ways to improve Standard Written English skills. Learning to improve writing skills at the sentence level helps to develop strong reading and grammar capabilities as well.

At the end of this course, students will be able to
    i.   identify and construct basic five types of English sentence,
   ii.   construct noun, verb, adjective, and prepositional phrases,
  iii. recognize and compose adverbial clauses of time and place,
  iv. understand and construct adverbial clauses of manner and reason, and
   v.   produce adverbial clauses of condition, concession, and purpose.

Unit 1   **Basic Sentence Types**   **(6 Hours)**

Unit 2   **English Phrases**   **(6 Hours)**

Unit 3   **Adverbial Clauses of Time and Place**   **(6 Hours)**

Unit 4   **Adverbial Clauses of Manner and Reason**   **(6 Hours)**

Unit 5   **Adverbial Clauses of Condition and Purpose**   **(6 Hours)**

References
1. Zandvoort, R.W. A Handbook of English grammar. London: Longman.
2. Huddleston, R., & Pullum, G.K. 2005. A students' introduction to English grammar. Cambridge: CUP.
3. Quirk, R., & Greenbaum. 1972. A grammar of contemporary English. London: Longman.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1			3	4		6
CO2			3	4		6
CO3			3	4		6
CO4			3	4		6
CO5			3	4		6
		Mean	4.3			

ENG 322V   **Content Writing**   **2 Hrs./2 Cr.**
                                 (Content Writing)

       The course aims to train students to write simple comprehensive content. It includes writing and editing to print and digital media. Application of content writing is used efficiently in education, entertainment, information as: textbooks, journals, press releases, advertisements, social media posts, web sources, blogs, vlogs, etc. It will enable students to research issues, write and edit the content as per the requisite of target audience.

At the end of the course, students will be able to
    i.   understand the need for content writing,
    ii. learn the nuances of content writing to different settings,
   iii. create managing content,
   iv. analyse content writing, and
    v. apply content writing in print and digital media.

Unit 1   **Introduction to Content Writing**   **(6 Hours)**
                  Analysing the writing situation: audience and purpose, choosing/discovering content, arranging content, drafting and editing.

Unit 2   **Analysing Content**   **(6 Hours)**
                  Collecting and Grouping Information, Planning Content Development, Strategies for Developing Content, Organisation and Content Development.

Unit 3   **Preparing and Presenting**   **(6 Hours)**
                  Analysing the Audience and Context, Determining the Presentation, Using Techniques to Enhance Presentation.

Unit 4   **Experiential Content Writing for Print Media**   **(6 Hours)**
                  Content Structuring, Development and Writing to Newsletter, Journal &Press releases.

Unit 5   **Experiential Content Writing to Web Sources**   **(6 Hours)**
                  Module Development and Writing to Blogs, Vlogs & Social Media

Reference
1. Elango, K. *Resonance.* CUP,2016.
2. the kate Kenneth W. Houp, T.E. reporting Technical Information. OUP, 2009.

Mapping of the Course Outcomes (Cos) with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3	4	5	
CO2		2		4	5	6
CO3		2	3	4	5	
CO4		2	3	4	5	6
CO5		2	3	4	5	6
Mean	3.8					

UNDERGRADUATE DEPARTMENT OF MATHEMATICS

Proposed Curriculum for Supportive course from 2020 – 2021 onwards

Sl No	Year	Semester	Course code	Course Title
1	II	III	MAT 2483	Statistics for Data science
2	II	IV	MAT 2484	Resource Management Techniques

VALUE ADDED COURSES
w.e.f. 2020-2021

Sl No	Year	Semester	Course code	Course Title
1	I	I	*MAT 121V	Mathematics for Competitive Examinations
2	I	I	MAT 123V	Programming in MATLAB
3	I	II	MAT 122V	Introduction to Web Designing
4	I	II	MAT 124V	Fundamentals of Data Science
5	II	III	*MAT 221V	Introduction to Astronomy
6	II	III	MAT 223V	Python Programming
7	II	IV	MAT 222V	Applied Boolean Algebra
8	II	IV	MAT 224V	Numerical Methods
9	III	V	*MAT321V	Hacks and Tips for Joint Admission Test-I
10	III	VI	*MAT 322V	Hacks and Tips for Joint Admission Test-II
11	III	VI	MAT 324V	Basics of Automata Theory

MAT 2483   **STATISTICS FOR DATASCIENCE**   **5Hrs / 4Cr**

Statistics is a branch of mathematics dealing with accumulation of data, organizing of data and interpreting in the given field of study. The data science which deals with data in different form needs a tool like statistics. This course provides a deeper understanding on various statistical concepts such as measures of central tendencies and dispersion, sampling, estimation, hypothesis testing, regression, and correlation analysis.

At the end of the course, students will able to
  i.   demonstrate theoretical, graphical and diagrammatic representation of statistical data
  ii.   analyze statistical data using measures of central tendency and measures of dispersion
  iii. identify and solve the problems on sampling distribution
  iv.   interpret and calculate the correlation and regression between two variables
  v.   analyze various index numbers and formulate the procedure to measure the change in the variable over the period of time

Unit 1: Introduction – Methods of Collecting Primary and Secondary Data – Classification and Tabulation – Formation of Discrete and Continuous Frequency Distribution – Graphical representation of Frequency Distribution – Diagrammatic presentation of Data.   **(15 Hours)**

Unit 2: Measures of Central Tendency – Arithmetic Mean – Simple and Weighted Arithmetic Mean – Combined Arithmetic Mean – Geometric Mean – Harmonic Mean – Median – Quartiles, Deciles and Percentiles – Mode – Measures of Dispersion – Range – Quartile Deviation – Standard Deviation – Combined Standard Deviation – Coefficient of Variation.   **(15 Hours)**

Unit 3: Introduction – Estimation – Hypothesis – Standard Error – Tests of Significance for Attributes – Tests of Significance for Large Samples – Tests of Significance for Small Samples – Student's Distribution.   **(15 Hours)**

Unit 4: Correlation – Meaning – Significance – Types – Graphic method – Mathematical method – Karl Persons Co-efficient of Correlation – Rank Correlation – Regression – Regression Lines.   **(15 Hours)**

Unit 5: Index Numbers – Definition – Uses – Construction of Index Number – Methods – Laspeyre, Paasche, Bowley and Fisher's Ideal Index Number – Tests of Index number – Cost of living Index Number.   **(15 Hours)**

TEXT BOOK:
R.S.N. Pillai and Bagavathi**,** Statistics theory and practice, 8th Edition, S. Chand & sons, New Delhi, 2017.
          Unit 1: Chapters 6, 7
          Unit 2: Chapters 9, 10
          Unit 3: Chapter 20
          Unit 4: Chapters 12, 13
          Unit 5: Chapters 14

REFERENCE BOOKS:
1. Sanchetti and Kapoor, Statistics, Sultan Chand, New Delhi, 2013.
2. Gupta S. P, Statistical Methods, Sultan Chand & Sons, New Delhi, 2012.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2		2		4		
CO3		2		4		
CO4			3		5	
CO5			3	4	5	

Mean: 3.2

MAT 2484   **RESOURCE MANAGEMENT TECHNIQUES 5Hrs/4Cr**

Operations Research is a tool developed for resource allocation and logistics during WWI. However in post-world war scenario it became an effective tool for management and thus become part and parcel of management and computer science courses. The purpose of this course is to impart the knowledge of formulation of Linear Programming Problem for life problems and find optimal solutions using the graphical Methods and Simplex Method. It also introduce to the learner basic tools of solving transportation, assignment, game theory and related problems which are essential for Data Science.

At the end of the course, the students will be able to
   i.   formulate Linear Programming Problem (LPP) and predict solutions of LPP using graphical and simplex methods
   ii. compute optimum solution of both balanced and unbalanced transportation problems using different techniques
   iii. identify the concept of assignment problem and its solutions by Hungarian method.
   iv. compute best strategy in game theory using dominance and graphical method for both pure and mixed strategy
   v.   design new models imitating PERT/CPM, solve PERT/CPM, predict the probability of project completion time

Unit 1: Introduction to operations research – Linear programming problem (L.P.P) – Mathematical formulation – Graphical solution – Solution to L.P.P by simplex method.
                                                                    (15 Hours)
Unit 2: Transportation problem – Mathematical formulation – Finding initial basic feasible solution – Northwest corner rule, least cost method and Vogel's approximation method – Moving towards optimality.   **(15 Hours)**

Unit 3: Assignment problem: Introduction – Mathematical formulation – Hungarian Assignment algorithm – Travelling Salesman Problem.   **(15 Hours)**

Unit 4: Game theory – Introduction – Two-person zero sum games – Maxmin principle - minimax principle – Saddle points – Games without saddle points – Solution of 2 x 2 games – Graphical method – Dominance property.   **(15 Hours)**

Unit 5: PERT/CPM – Introduction – Networking – Critical path analysis – Probability considerations in PERT.   **(15 Hours)**

TEXT BOOK:
KantiSwarup, P. K. Gupta and Man Mohan, Operations Research, Sultan Chand and Sons, 2004.
        Unit 1: Chapter 1 (1. 1, 1.6, 1.7); 2 (2.1, 2.2); 3 (3.1, 3.2); 4 (4.3).
        Unit 2: Chapter 10 (10.1, 10.9, 10.10, 10.14).
        Unit 3: Chapter 11 (11.1 – 11.4).
        Unit 4: Chapter 17(17.1 – 17.7)
        Unit 5: Chapter 21 (21.1 – 21.6)

REFERENCE BOOKS:

1. Taha, H.A, Operations Research - An Introduction, Prentice Hall, 8th Edition, 2007.
2. Kapoor V.K, Operations Research, Sultan Chand and sons, 1997.
3. Gupta P.K. and Man Mohan, Problems in Operations Research, Sultan Chand and Sons, 2007.
4. Paneerselvam, Operations Research, Prentice Hall, 2004.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1		3			
CO2		2		4		
CO3	1				5	
CO4		2		4		
CO5				4		6

Mean: 3.2

MAT 122V   INTRODUCTION TO WEB DESIGNING   2Hrs (1T+1L)/ 2Cr

Web designing encompasses many different skills in the designing and maintenance of websites. This course is would create interest in the students who have flavor for such creative works. It includes features such as geolocation, video playback and drag-and-drop. HTML allows developers to create rich internet applications without the need for third party Application Programming Interface (API) and browser plug-ins.

At the end of the course, students will be able to
  i.   understand the structures of web designing
  ii.   demonstrate the use of various formatting tags
  iii. define and use various image tags, table attributes and lists
  iv.   demonstrate the use of links and frames tags
  v.   design or create web pages and web sites

Unit 1: HTML Tags – HTML Document structure – Heading Tags – Paragraph Tags – Line break tag – Centering content – Horizontal lines – Preserve Formatting.
(5 Hours)
Unit 2: Various formatting tags – Grouping content – Specifying Keywords – Document description – Document Refreshing – Page Redirection – Specify character set – Using comment tag.   **(6 Hours)**

Unit 3: Image tags and attributes – Table tags and its properties– Creating tables – HTML Unordered lists – HTML ordered lists – HTML Definition lists.   **(7 Hours)**

Unit 4: Linking documents –Default settings – Creating frames using various tag attributes – Browser support for Frames – Frame's name and target attributes.
(6 Hours)
Unit 5: HTML backgrounds tags and attributes –Color attributes –Creating backgrounds –Form attributes – Creating a Webpage.   **(6 Hours)**

REFERENCE BOOKS:
  1. Hirdesh Bhardwaj, Web Designing, Educreation publishing, 2016.
  2. Sathish Jain, AmbrishK .Rai and Geetha, Web Designing and Development Training Guide, BPB publications, 2015.
  3. A beginner's guide to HTML, Kogent Learning Solutions Inc, Dreamtech Press, 2002.
  4. Jon Duckett, HTML and CSS Design and Build websites, John Wiley and Sons, 2011.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1		3			
CO2		2		4		
CO3	1				5	
CO4		2		4		
CO5				4		6

Mean: 3.2

MAT 123V   **PROGRAMMING IN MATLAB**   **2 Hrs (1T+1L)/ 2 Cr**

         MATLAB is a software that allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces and interfacing with programs written in other languages. The course aims at understanding the MATLAB environment and design simple algorithms to solve mathematical problems. The course includes basics of MATLAB, interactive computation, applications in linear algebra and basic 2D plots.

At the end of the course the student will be able to
- i.   demonstrate the general structure of MATLAB environment
- ii.   perform interactive computations using MATLAB
- iii.   plot simple graphs using MATLAB and perform array operations
- iv.   explain about script and function files in MATLAB
- v.   solve linear system and annotate 2D plots using MATLAB commands

Unit 1: Introduction- Basics of MATLAB- MATLAB Windows-Online help-Input-Output – Files types-Platform Dependence-General commands.   **(6 Hours)**

Unit 2: Matrices and Vectors- Input – Indexing – Matrix manipulation- Creating vectors-Command line function.   **(6 Hours)**

Unit 3: Matrices and Array Operations – Arithmetic operations – Relational operations – Logical operations – Elementary math functions – Matrix functions – Character strings - Using Built-in functions - Plotting Simple graphs.   **(6 Hours)**

Unit 4: Scripts and Functions-Script files-Function files- Executing a function – More on functions - Sub functions.   **(6 Hours)**

Unit 5: Language Specific features – Global variables – Loops – Branches – Control flow -Solving a linear system - Basic 2-D plots.   **(6 Hours)**

REFERENCE BOOKS:

1. Rudra Pratap, Getting started with MATLAB 7, Oxford Uni. Press, 2008.
2. Brain R Hunt, Ronald L Lipsman and Jonathan M Rosenberg, A Guide to MATLAB for Beginners and Experienced Users, Cambridge University Press, 2003.
3. Y. Kirani Singh and B. B. Chaudhuri, MATLAB Programming, Prentice-Hall of India Pvt. Ltd, New Delhi, 2008.
4. Amos Gilat, MATLAB, An Introduction with Applications, John Wiley and Sons 2009.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2		2	3			
CO3		2	3			
CO4				4		
CO5					5	6

Mean: 3.11

MAT 124V   **FUNDAMENTALS OF DATA SCIENCE**   **2 Hrs / 2 Cr**

Data science is an inter disciplinary field that uses scientific methods, process, algorithms and systems to extract knowledge and insights from many structural and unstructured data. The objective of the course is to understand the basics of data science. It also enables the students to solve problems through logical thinking and learn programming using R.

Upon completion of this course students will be able to:
  i.   acquire the basic knowledge of Data Science and its concepts
  ii.   develop in depth knowledge in Data Science Process
  iii. understand the concept of Data Visualization with Support Vector Machine
  iv.   implement programming skills using R Studio
  v.   develop simple applications using Matrix, List, Data Frames and Tables

Unit 1: AI, Machine Learning and Data Science – Case of Data Science –Data Science Classification – Data Science Algorithms.   **(6 Hours)**

Unit 2: Data Preparation – Modeling – Applications – Knowledge.   **(6 Hours)**

Unit 3: Datasets – Data Visualization – Classification – Decision Trees – Rule Induction – Support Vector Machines.   **(7 Hours)**

Unit 4: Introduction – R Console – Scripts – R Studio – Installing R Package – Basics – Data Types – Vectors – Basic Plots.   **(6 Hours)**

Unit 5: Matrix and Arrays – Math Functions – Set Operations.   **(5 Hours)**

REFERENCE BOOKS:
1. Vijay Kotu, Bala Deshpande, Data Science Concepts and Practice, Second Edition, Morgan Kaufmann Publishers, 2019.
2. Norman Matloff, The Art of R Programming, No Starch Press, 2011.
3. Garrett Grolemund, Hands – On Programming with R, O'Reilly Media Inc., 2014.
4. Sudha G. Purohit, Statistics using R, Narosa publishing House Pvt., Ltd., New Delhi, 2015.
5. John D. Kelleher and Brendan Tierney, Data Science, First Edition, The MIT Press, London, 2018.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1					
CO2				4		
CO3		2			5	
CO4			3			
CO5						6

Mean: 3.5

MAT 222V **APPLIED BOOLEAN ALGEBRA** **2 Hrs / 2Cr**

Boolean Algebra is a branch of Mathematics which deals with truth valued variables. It played a fundamental role in the development of digital electronics and provided for all in modern programming languages. The aim of this course is to make the learner to understand this area in Mathematics where the bits 0 and 1 play the role and its connections with the computer and switching theory.

At the end of the course the students will be able to
   i.   convert between decimal, binary representations of integers
  ii.   analyze the error detecting and correcting properties of codes
 iii.   understand the applications of Shannon's expansion theorem
 iv.   simplify the Boolean algebra expressions using Karnaugh map technique
  v.   analyze and design switching circuits

Unit 1: General base and digits – Decimal to Binary, Decimal to Hexa-decimal and conversion – Binary addition, multiplication, subtraction and division. **(6 Hours)**

Unit 2: Codes - BCD code, excess 3 code, weighted and non weighted codes, Gray code-error detection and correction – Hamming code. **(6 Hours)**

Unit 3: Switching algebra – Simplification of switching functions – Truth tables-applications. Shannon's expansion theorem. **(6 Hours)**

Unit 4: Karnaugh map technique – 3 variables and 4 variables map. **(6 Hours)**

Unit 5: Drawing of switching functions – Logical circuits – 7 segment display.
  (6 Hours)

REFERENCE BOOKS:
1. Z. Kohavi, Switching and finite automata theory, Cambridge University Press, 2009.
2. Elliott Mendelson, Boolean algebra and switching circuits, Schaums outline series, Mc Graw Hill Edition, 1970.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2		4		
CO2			3	4		6
CO3	1		3			6
CO4		2	3		5	
CO5	1	2				6

Mean 3.43

MAT 223V **PYTHON PROGRAMMING** **2 Hrs (1T+1L)/ 2Cr**

Python is a buzzword in the IT industry as it has got lot of relevance to Artificial Intelligence and Machine Language. It is a versatile programming language which has overcome the initial hiccups. The objective of the course is to introduce the environment and develop a basic understanding of programming in the context of Python programming language.

On successful completion of the course the student will be able to:
  i.   know about basic Python language syntax and use concepts such as identifiers, keywords and library functions.
  ii.   read and write simple Python programs.
  iii. structure simple Python programs with conditionals and loops.
  iv.   represent compound data using Python lists and tuples
  v.   decompose a Python program into functions

Unit 1: Python Basics – Identifiers and keywords – Operations and conversions – Built in Functions – Library Functions – Programs. **(6 Hours)**

Unit 2: Accessing String Elements - String properties – String operations – Programs. **(6 Hours)**

Unit 3: Decision Control Instruction – Logical operators – Conditional Expressions – Repetition control instructions – Programs. **(6 Hours)**

Unit 4: Accessing List Elements – Basic List operations – List methods – List varieties– Accessing Tuple Elements – Tuple operations – Tuple varieties – Dictionaries – Programs. **(6 Hours)**

Unit 5: Communication with Functions – Types of Arguments –Unpacking Arguments– Lambda Functions– Recursive Functions –Programs. **(6 Hours)**

REFERENCE BOOKS:
  1. Yashwant Kanetkar and Aditya Kanetkar, Let Us Python, BPB Publications, 2019.
  2. Kenneth A. Lambert, The Fundamentals of Python, First programs, Cengage Learning, ISSN: 978-1111822705, 2011.
  3. Balagurusamy, Introduction to Computing and Problem Solving Using Python, McGraw Hill Education India Private Limited, First Edition, 2017.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2	3			
CO2		2		4		
CO3		2	3			
CO4			3		5	
CO5			3			6

Mean: 3.3

MAT 224V   **NUMERICAL METHODS**   **2 Hrs / 2 Cr**

        Numerical method is a tool designed to find solutions closer to the analytical solution which is exact to the mathematical problems. The aim of this course is to enable the students to acquire basic tools in numerical methods for solving algebraic and transcendental equations, System of simultaneous equations and Interpolation.

After the end of this course students will be able to
   i. understand the basic tools in numerical methods for solving algebraic and transcendental equations
  ii. develop the numerical skills in solving the problems involving systems of linear equations
 iii. understand numerical techniques to find the roots of nonlinear equations and solution of system of linear equations
  iv. apply the numerical techniques of interpolation in equal intervals in real life situations
   v. apply basic knowledge in estimating the missing data through interpolation methods

Unit 1: Solution of algebraic and transcendental equations - Bisection method - Iteration method - Method of false position - Newton Raphson method.   **(6 Hours)**

Unit 2: Solution of linear system of equations – Gauss Elimination method Gauss Jordan method.   **(6 Hours)**

Unit 3: Iterative method – Gauss Jacobi method – Gauss Seidel iteration method.
      (6 Hours)

Unit 4: Interpolation —Newton's Interpolation with equal intervals- Newton's Forward and backward interpolation formula.   **(6 Hours)**

Unit 5: Interpolation with unequal intervals – Lagrange's Interpolation formula - Newton's divided difference formula.   **(6 Hours)**

REFERENCE BOOKS:
1. S.S. Sastry, Introductory Methods of Numerical Analysis, Pentice hall of India. 2000.
2. S.Arumugam, A. Thangapandian Isaac and S. Somasundaram, Numerical Methods, Scitech publications, 2009.
3. M. K Jain, S. R. K. Iyengaand, Numerical methods for Scientific and Engineering computation, New age international, 1995.
4. Kandasamy, P., Thilakavathy, K. and Gunavathy, K., Numerical Methods, S. Chand and Co., New Delhi, 1998.
5. Grewal, B.S. and Grewal, J.S., Numerical Methods in Engineering and Science, Khanna Publishers, New Delhi, 1999.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO 1	1					
CO 2						6
CO 3		2				
CO 4			3	4		
CO5					5	

Mean: 3.5

MAT 324V   **BASICS OF AUTOMATA THEORY**   **2 Hrs / 2 Cr**

The objective of this course is to give an overview of the theoretical foundations of computer science from the perspective of formal languages, to illustrate finite state machines to solve problems in computing, and to explain the hierarchy of problems arising in the computer sciences.

At the end of the course, students will be able to
  i.   understand the notion of grammar and languages
  ii. use basic concepts of formal languages of finite automata techniques
  iii. design Finite Automata for different Regular Expressions and Languages
  iv. construct context free grammar for various languages
  v.   solve various problems of applying push down automata

Unit 1: Alphabets – Strings and Languages –Various types of grammars with examples.
                                                                        (6 Hours)

Unit 2: Finite Automata– Deterministic Finite Automata (DFA) –Non deterministic Finite Automata (NFA) – Equivalence of NFA and DFA – Finite Automata with ϵ-moves.   **(6 Hours)**

Unit 3: Regular Expressions–Regular language – Regular Expressions for Deterministic Finite Automata – Non-Deterministic Finite Automata for Regular Expressions.
                                                                        (6 Hours)

Unit 4: Derivation Trees – Left Most Derivation – Right Most Derivation –Ambiguity.
                                                                        (6 Hours)

Unit 5: Push Down Automata (PDA) – Instantaneous descriptions –Accepted languages – Language of PDA – Acceptance by Final state –Acceptance by empty stack.
                                                                        (6 Hours)

REFERENCE BOOKS:
  1. Rani Siromoney, Formal languages and Automata Theory, Manohar printers, Tambaram, 1973.
  2. N. Ponni Padmaja, Theory of Computation, R. K. Publishers, Coimbatore, 2004.
  3. John E. Hopcroft, Rajeev Motwani, Jeffrey D. Ullman, Introduction to Automata Theory Languages and Computation, 3rd Edition, Pearson Education, India, 2007.
  4. Rakesh Dube, Adesh Pandey, Ritu Gupta, Discrete Structures and Automata Theory,
     Narosa Publishing House Pvt. Ltd., New Delhi, India, 2006.
  5. A. Solairaju, M. Chandrasekhar, S. Ganesh, R. Krishnamoorthy, Discrete Mathematical Structures, Anuradha Agencies, Kumbakonam, 2003.

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2			3			
CO3						6
CO4				4		
CO5					5	

Mean: 3.5

UNDERGRADUATE DEPARTMENT OF CHEMISTRY

CHE/CHS 3618   **APPLIED ANALYTICAL CHEMISTRY**   *6 hrs / 6 cr*

This is a theory cum lab course that deals with the application of various chemical concepts in different fields. Ideas pertaining to the techniques of water treatment for domestic purpose, polymers and paints in our daily life are discussed. The chemistry behind different separation techniques and small scale preparation of some important commodities will be illustrated through experiments. This course will enable the students to appreciate the significance of their knowledge of chemistry in their day to day life.

At the end of the course the students will be able to
1. Explain various types of laboratory water and the method to obtain them
2. Describe the constituents of paints &pigments and the various metallic coating processes
3. Discuss the types & preparation of polymers and relate the properties with uses
4. Separate components in a mixture
5. Formulate small scale preparation of some essential commodities

UNIT I: Water   **15 hrs**
Water - impurities - drinking water: requirements, laboratory water: types (1,2,3) - mineral water, distilled water, demineralised water, millipore water, sterile water – preparation and uses – hot and cold lime soda process, ion-exchange process, solar purifications, desalination - reverse osmosis and electrodialysis process.

UNIT II: Paint and Metallic coating   **15 hrs**
Paint: classification – Pigment Volume Concentration- constituents and functions of paint – special paints (fire retardant, water repellent, temperature indicating paint and luminous paint)- Distember – Varnishes – Lacquers.
Metallic coating: Hot Dipping, Galvanizing, Electroplating(Au) and Electrodeless(Ni) plating.

UNIT III: Polymers   **15 hrs**
Synthetic polymers – Preparation, properties & uses: Polyethylene, PVC, Teflon, Nylon, Phenol formaldehyde, Urea Formaldehyde, Epoxy resin
Rubber – natural and synthetic –vulcanisation
Biodegradable polymers – biomedical applications: medical sutures, pins, dental implants
Biostable polymers – biomedical applications: cardiovascular applications, bones-joints-dental polymers, contact lenses and IOL, hemodializer materials, tissue engineering polymers, controlled release of drugs, polymeric blood substitutes

UNIT IV: Separation techniques   **15 hrs**
Steam distillation – Principle, isolation of cinnamaldehyde from cinnamon
Soxhlet extraction – Principle, extraction of essential oils
Paper chromatography – Principle, separation of pigments in ink

Thin layer chromatography – Principle, separation of Active Pharmaceutical Ingredient in drugs, pigments in leaves and flowers

Column chromatography – Principle, separation of synthetic dyes

UNIT V: Small scale preparation 15 hrs

Preparation of the following commodities on a small scale:

Disinfectants – Hand sanitizers, Floor cleaners

Candles – different forms and colours

Paints & Pigments – differentcolour synthetic pigments

Polymers – linear and cross linked

Virgin oil extraction – coconut oil: Cold & Hot process

TEXT BOOKS:

1. Jain.P.C. and Monika Jain, Engineering Chemistry, 4th Edition, DhanpatRai& Sons, New Delhi, 2002. (Unit – I & Unit – II)
2. Industrial Chemistry, B.K.Sharma, 7th edition, 1995, ISBN – 8185842531, GOEL publishing house. (Unit – I & Unit – II)
3. Applied Chemistry, K. BagavathiSundari, 2006, ISBN 818094025X, MJP publishers. (Unit – III)
4. Contemporary Polymer Chemistry, Harry R. Allcock, Frederick W. Lampe, James E. Mark, 3rd edition, 2005, Pearson Prentice hall. (Unit – III)
5. Analytical Chemistry, Gary D.Christian, John Wiley & Sons, VI edition, 2005. (Unit – IV)
6. Instrumental Methods of Chemical Analysis, H.Kaur, PragatiPrakashan, 2012. (Unit – IV)
7. Instrumental Methods of Analysis,H.R.Willard, L.L.Merritt, J.A.Dean and F.A.Settle, 7th edition, CBS publishers & distributers, New Delhi. (Unit – IV)
8. Science and Beauty Business Vol-1,J.V.Simons, Macmilan Education Ltd, 1989. (Unit – V)
9. Latest Cottage Industries, D.H. Brij Mohan MalhotraandJaganNathSud. Bedekar, A. Dewan Chand Anand& Son publishers, 1961. (Unit – V)

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2	1	2				
CO3	1	2				
CO4	1	2	3	4		
CO5	1	2	3	4	5	6

Mean: 3.2

UNDERGRADUATE DEPARTMENT OF BOTANY

w.e.f 2020-2021

Semester	Part	Course No.	Course Title	Hr.	Cr.	Marks
1	I	***12XX	TAM/HIN/FRE	3	2	30
	II	ENG1201	Conversational Skills	3	2	30
	IIIC	BOT1551	Ethnoecology	**5**	**5**	**75**
	IIIC	BOT1453	Learning Basic Skills In Biology(LBSB)	**4**	**4**	**60**
	IIIC	BOT1455	LAB I (Ethnoecology and LBSB)	**4**	**4**	**60**
	IIIS	CHE13XX	Chemistry for Botanist -1(theory)	3	3	45
	IIIS	CHE11XX	Chemistry for Botanist -1(lab)	2	1	15
	IVE	***12XX	Basic Tamil/Adv.Tamil/Non-Major	3	2	30
	IVLS	***12XX	Life Skill -1	3	2	30
	V	***11XX	NCA/NCN/NSS/PED/SLP		-	
			Total	**30**	**25**	
2	I	***12XX	TAM/HIN/FRE	3	2	30
	II	ENG1202	Reading and Writing Skills	3	2	30
	IIIC	BOT1552	Genetics and Plant Breeding	**5**	**5**	**75**
	IIIC	BOT1454	Evolution & Phycology	**4**	**4**	**60**
	IIIC	BOT1456	LAB II (Phycology &Genetics)	**4**	**4**	**60**
	IIIS	CHE13XX	Chemistry for Botanist – 2(theory)	3	3	45
	IIIS	CHE11XX	Chemistry for Botanist – 2 (lab)	2	1	15
	IVE	***12XX	Basic Tamil/Adv.Tamil/Non-Major	3	2	30
	IVLS	***12XX	Life Skill -2	3	2	30
	V	***11XX	NCA/NCN/NSS/PED/SLP		1	
			Total	**30**	**25+1**	
3	I	***22XX	TAM/HIN/FRE	3	2	30
	II	ENG2201	Study Skills	3	2	30
	IIIC	**BOT2551**	**Microbiology**	5	5	75
	IIIC	**BOT2553**	**Archegoniatae**	4	5	75
	IIIC	**BOT2355**	**Horticulture**	4	3	45
	IIIC	**BOT2657**	**LAB III (Micro+Arche +Horticulture)**	2+2+2	6	90
	IIIS	ZOO2349	General Zoology-I	3	3	45
	IIIS	ZOO2151	Lab in General Zoology-I	2	1	15
	V	***21XX	NCA/NCN/NSS/PED/SLP			
			Total	**30**	**27**	
4	I	***22XX	TAM/HIN/FRE	3	2	30
	II	ENG2202	Career Skills	3	2	30
	IIIC	**BOT2552**	**Mycology and Pathology**	5	5	75
	IIIC	**BOT2454**	**Cell Biology**	4	4	60
	IIIC	**BOT2456**	**Anatomy and Reproductive Biology of Angiosperms (ARBA)**	4	4	60

IIIC	BOT2658	**LAB IV (Myco+Cellbio+ARBA)**	6	6	90	
IIIS	ZOO2350	General Zoology II	3	3	45	
IIIS	ZOO2152	Lab in General Zoology II	2	1	15	
V	***21XX	NCA/NCN/NSS/PED/SLP		1		
		Total	**30**	**27+1**		

Semester	Part	Course No.	Course Title	Hr.	Cr.	Marks
5	IIIC	BOT 3651	Plant Systematics	6	6	90
	IIIC	BOT3653	Biochemistry	6	6	90
	IIIC	BOT3555	Analytical Techniques and Research Methodology	5	5	75
	IIIC	BOT3657	LAB – V (Pt Systematics + Biochem)	3+3	6	90
	IVEVS	BOT 3259	Environmental Studies	4	2	30
	IVLS	***32XX	Life Skill – 3	3	2	30
				30	**27**	
6	IIIC	BOT3852	Plant Biotechnology (Lab cum Theory)	4+3L	8	75+45
	IIIC	BOT3454	Entrepreneurial Botany	4	4	60
	IIIC	BOT3656	Plant Physiology (Lab cum Theory)	5+2L	6	60+30
	IIIC	**BOT3558**	**Botany Project**	5	5	75
	IVLS	***32XX	Life Skill IV	3	2	30
	IVVE	VAL32XX	Value Education	4	2	30
			Total	**30**	**27**	

Supportive Courses

Semester	Part	Course No.	Course Title	Hr.	Cr.	Marks
1	IIIS	BOT1357	Plant Biology I (theory)	**3**	**3**	**45**
1	IIIS	BOT1159	Plant Biology I (lab)	**2**	**1**	**15**
2	IIIS	BOT1358	Plant Biology II (theory)	**3**	**3**	**45**
2	IIIS	BOT1160	Plant Biology II (lab)	**2**	**1**	**15**
3	**IIIS**	**BOT2359**	**Botany for Chemists- I (theory)**	3	3	45
3	**IIIS**	**BOT2161**	**Botany for Chemists – I (lab)**	2	1	15
4	**IIIS**	**BOT2360**	**Botany for Chemists- II(theory)**	3	3	45
4	**IIIS**	**BOT2162**	**Botany for Chemists – II (lab)**	2	1	15

*Life Skill Courses

Semester	Part	Course No.	Course Title	Hr.	Cr.	Marks
1	IVLS	BOT1251	Mushroom Culture Technology	**3**	**2**	**30**
2	IVLS	BOT1252	Nursery and Gardening	**3**	**2**	**30**
5	IVLS	BOT3251	Medicinal Botany	3	2	30
6	IVLS	BOT3252	Biofertilizers and Biopesticides	3	2	30

*Non Major Courses

Semester	Part	Course No.	Course Title	Hr.	Cr.	Marks
1	IVE	BOT1253	Food and Nutrition	**3**	**2**	**30**
2	IVE	BOT1254	Plant Wonders	**3**	**2**	**30**

Value Added Courses

Semester	Course No.	Course Title	Hr.	Cr.	Marks
4	**BOT222V**	**Organic farming**	**2**	**2**	**30**
6	**BOT322V**	**Skills in Biology**	**2**	**2**	**30**

*   All Job oriented courses

BOT 2551   **MICROBIOLOGY**   **5Hr./5Cr.**

This course provides an overview of microbial diversity and their life forms to the students. Students will be apprised about the basic microbial techniques and handling of microscopes. Students will be facilitated to explore the diversity of microbes and their role in the variety of habitats. Viruses will be dealt separately with emphasize on the diseases caused by them to plants and animals. Commercial aspects of microbes will also be dealt in this course.

COURSE OUTCOME
At the end of the Semester Students will be able to
i.   employ microscopes with confidence and observe the microorganisms
ii. perform basic experiments and explore the diversity of microbes in different habitats
iii. comprehend the classification, life process and reproduction in microbes
iv. infer the invisible but substantial role of microbes in agriculture
v.   screen and evaluate the potentially important microbes for commercial use

Unit 1: Fundamentals of microbiology   **(15 hr)**
History, development and scope of microbiology– contributions of A.V. Leeuwenhoek, L. Pasteur and Robert Koch– principles of microscopy – types of microscopes - microbial diversity based on habitat. Viruses: Discovery, DNA virus (T-phage) – RNA virus (HIV, Covid19) – comparison of plant and animal viruses– mycoplasma.

Unit 2: Methods in microbiology   **(15 hr)**
Sterilization techniques (chemical and physical) – microbial culture media – isolation of microorganism–microbial growth measurements – pure culture –preservation and stability – preservation techniques – culture collection centers - staining techniques.

Unit 3: Bacteria   **(15 hr)**
Prokaryotic organization: ultrastructure of bacteria – cell wall – genetic material - nutritional types. Bacterial classification: morphotypes, outline of Bergey's system of classification. Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction) – actinomycetes.

Unit 4: Agricultural microbiology   **(15 hr)**
Plant-microbe interaction – biogeochemical cycles (nitrogen) – biological nitrogen fixation – biofertilizers – phosphate and silicate solubilizers – legume – *Rhizobium* interaction – root nodule –nitrogenase –biopesticides – bacterial (*Pseudomonas fluorescens, Bacillus thuringiensis*) – fungal (*Trichoderma, Metarhizium*) –viral (Nucleopolyhedrovirus, Granulosis virus)–plant growth promoting bacteria (PGPB).

Unit 5: Applied microbiology   **(15 hr)**
Harmful and beneficial microbes – clinical microbiology –food microbiology: microbes in milk, meat– microbial contamination – food poisoning –food borne diseases –microbial products: dairy products –cheese – microbial enzymes – vitamins – water & air microbiology: water and air borne contamination and treatment.

Text books

1. Dubey, R. C and Maheswari, D. K. (2013). A Textbook of Microbiology, S. Chand & Comp. ISBN 8121926203.
2. Purohit, S. S. (2004). A Textbook of Microbiology, Student Edition. ISBN 8188826170.
3. Rangaswami, G and Bagyaraj, D. J. (1993). Agricultural Microbiology, 2nd Ed. Prentice Hall of India Pvt. Ltd. New Delhi. ISBN 0876926685.
4. Sullia, S. B and Shantharam, S. (2008). General Microbiology, Oxford & IBH Publishing Co. Pvt. Ltd, New Delhi. ISBN 8120412117.
5. Geeta Sumbali and Mehrotra R.S. (2009). Principles of Microbiology. First edition, Tata McGraw Hill P. Ltd., New Delhi.

References

1. Atlas, M. R. (1997). Principles of Microbiology. W.C. Brown Publishers. ISBN 0815108893
2. Frazier, W. C. and Westhodd. D. C. (2000). Food Microbiology - 10th Ed. Tata McGraw Hill.
3. Pelczar, H. J. E. C. S. Chan and Kreig. N. R. (1993). Microbiology concepts and applications. Tata McGraw Hill Inc. ISBN 0070492344.
4. Prescott, L. M., Harley J. P., Klein D. A. (2008). Microbiology. 6th Edition, McGraw Hill, India. ISBN 0071267271.
5. Stanier, R. Y. (1987). General Microbiology. 5th Edition. McMillan Education Ltd. ISBN 033341768.

Mapping of course outcomes with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	4	5	4	4	3	2	22
CO2	5	5	5	3	3	3	24
CO3	4	4	4	5	5	3	25
CO4	4	4	4	4	5	3	24
CO5	3	4	5	5	5	3	25
	20	22	22	21	21	14	120
120/30 = 4.0							

BOT 2553   **ARCHEGONIATAE**   **4Hr./5Cr.**

This course will help the student to understand the evolutionary process in plant kingdoms which will commence from algal form. It seeks to give an account of plant adaptations from aquatic condition to a colonized terrestrial habitat. The changes in morphological, anatomical and reproductive structures that propel plant evolution will be investigated. In nutshell the course will trace evidences of plant evolution from extinct and extant plants.

At the end of the Semester, the Students will be able to
  i.   comprehend the evolution of plants and their changing nature of life cycle pattern and reproductive structures
  ii.   understand the salient features of bryophytes with their adaptive features and its ecological significance
  iii. evaluate the need for colonization of land by vascular plants with heterospory and the seed habit
  iv.   correlate and analyze the relationship between the ferns and the true land plants "the gymnosperms"
  v.   justify the rise of flowering plants from their single cell ancestors by studying the historical evidence of fossils through ages.

Unit 1: Morphological adaptations on land   **(15 hrs)**
Terrestrial habitats (morphological and anatomical characters for heterotrichous habit) - evolution of sex organs (antheridium, oogonium, archegonium, ovule).

Unit 2: Bryophytes   **(15hrs)**
 Classification and Salient features; Introduction to Hepaticopsida, Anthocertopsida and Bryopsida, Morphology, anatomy and reproduction of *Riccia*, *Anthoceros* and *Funaria*. Ecological importance.

Unit 3: Pteridophytes   **(15hrs)**
Classification and Salient features; Introduction to Psilotopsida, Lycopsida, Sphenopsida and Filicopsida, Heterospory and seed habit. Morphology, anatomy and reproduction of *Lycopodium*, *Selaginella*, Stelar evolution, Aquatic & Terrestial Ferns (*Marsilea*, *Azolla*, *Adiantum*, *Nephrolepis)*

Unit 4: Gymnosperms   **(15hrs)**
Classification and Salient features; Introduction to Cycadopsida, Coniferopsida, Gnetopsida, Morphology, anatomy and reproduction of *Cycas, Gnetum.* Economic importance - Origin of angiosperm

Unit 5: Evolution of land plants: **(15hrs)**
Paleoclimatic changes across the Geological time zones. Fossilization and fossil types (Impression, Compression, Petrifaction, Cast, Coal ball) - mega extinction - Reconstruction (*Lepidodendron*)

Text Books
1. Pandey, B. P. (2005). College Botany, Vol I. 5th Edn., S. Chand & Company New Delhi. ISBN 81-219-0593-1
2. Pandey, B. P. (2009). College Botany, Vol II. 7th Edn., S. Chand & Company New Delhi. ISBN 81-219-0601-6
3. Rashid,A.(1982). An Introduction to Pteridophyta, Vikas Publishers Co. New Delhi. ISBN: 81-259-0709-2
4. P. R. Vasista (2017) Botany for Degree student, Bryophyta, S. Chand Publication, New Delhi.
5. Singh, Pandey and Jain (2017). Archegoniate, Rastogi Publication, Meerut.

References
1. Muller,W,H. (1979). Botany: A functional approach, Collier Mac Millan ISBN 0-02-979440-4
2. Rashid,A.(1998). An Introduction to Bryophytes, Vikas Publishers Co. New Delhi. ISBN: 81-25,9-0569-3
3.Vasishta, P.C. (2006). Gymnosperms. S. Chand & Company New Delhi. ISBN 81-219-2618-1
4. Willis,K.J and McElwain.J.C (2002). The Evolution of Plants. Oxford University Press. ISBN 0-19-850065-3
5. Stewart,W.N and Rothwell G.W. 2010 Paleobotany and the evolution of Plants Cambridge University Press 2nd edition ISBN 10:0521126088

Mapping of Course Outcomes with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	5	5	4	4	2	1	21
CO2	5	5	5	3	3	1	22
CO3	5	5	4	4	4	2	24
CO4	5	5	4	4	3	1	22
CO5	5	5	4	4	3	3	24
	25	25	21	19	15	8	113
						113/30 = 3.7	

BOT 2355   **HORTICULTURE**   **4Hrs /3 Cr.**

A skill-based course, exclusively designed for plant biologists, to learn the basic art of growing plants and multiplying different kinds of propagules in large numbers. While learning this course students will touch and feel and also watch the behaviour of juvenile plants and appreciate their transformation into plants. The students will also explore the reproductive biology of the plants and understand the role of seeds in propagation. This course will give them a confidence to nurture plants with care and add on fine skills in propagation. At the end of the course, students will gain a professional skill.

At the end of the course, the students will be able to
i.   examine soil characteristics, understand suitability of crops for seasons, identify various fertilizers and manures for improving soil and to assess the soil.
ii. acquire professional competency in choosing the propagation methods for horticultural crops, experiment the techniques.
iii. develop physical protections and growing structures in their own terrace and garden.
iv. cultivate certain vegetable crops, flowering plants and fruit trees by understanding the method of cultivation and maintenance.
v.   apply the knowledge acquired in marketing the crop produces and to gain entrepreneurial skill.

Unit 1: Soil science   **(12 hrs)**
Soil components- types - characteristics (colour, pH, porosity, organic matter, inorganic matter, organisms - water) – soil map of Madurai- suitable crops for seasons (kharif, rabi, Zaid) - fertilizer types – manure types and manuring – soil less culture (hydroponics and aeroponics) – Potting media - role of soil testing centre.

Unit 2: Propagation and Maintenance   **(14 hrs)**
Vegetative propagation: Stem, Leaf, Root - Propagules: Rhizome – Bulb – tuber – sucker – corm - offsets; Horticultural techniques: Cutting - Layering – Budding – Grafting; maintenance: Irrigation – fertilizing- pruning - Sexual propagation: Seed dormancy - treatment – testing – Pest & Disease management.

Unit 3: Special Infrastructure / facilities   **(12 hrs)**
Plant growing structures: hot bed – cold frame – net house - polytunnel – green house - front yard flower garden – backyard vegetable garden - terrace garden. Facilities and tools needed for growing horticultural crops.

Unit 4: Cultivation and Harvesting practices   **(14 hrs)**
Vegetable crops: Brinjal, Potato, Bitter gourd - Flowering crops: Rose, *Tagetus,* Jasmine - Fruit Trees: Mango, Guava, Banana - Maturity indices (Visual, Physical appearance) – Harvesting methods (Manual & Mechanical) – Harvesting tool – processing - storage (Cold, dry) – value addition – marketing.

Unit 5: Applied horticulture   (8 hrs)

Landscaping – Lawn maintenance - Ikabana – Bonsai –vegetable carving – Indoor plants - Ornamental succulents - Terrarium- Bouquet making- flower export (cut and dried flowers) – career opportunities and entrepreneurial skills.

Text Books

1. Agarwal. P.K. (1993) Hand book of Seed technology, Dept of Agriculture and cooperation, National Seed corporation Ltd., New Delhi
2. Kumar, N. (2017), Introduction to Horticulture, I.K. International Publishing houses ltd. 8th edition. H.D. Kumar, (2009), Handbook of horticulture, McMillan India Ltd. Pub. New Delhi
3. Edmond Musser & Andrews, (2008). Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi
4. Manibhushan Rao K (2005) Text book of Horticulture, McMillan India Ltd. Pub. New Delhi. ISBN 1403-9281.

References

1.Chadha, K.L. (2012). Specifications of Handbook of Horticulture Ist Edition, ICAR, ISBN-9788171640065.
2. Edmon J.B., Seen T.L., Andrews F.S. Halfacre R.G (1997) Fundamentals of Horticulture. Tata McGraw Hill pub. New Delhi. ISBN 0-07-099288-6.
3. George, A. (2009). Horticulture-Principles and practices, 4th Edition, Prentice hall of India, New Delhi. ISBN-10-8120338200.
4. Kamaljit S Bawa, Richars B. Primack, Meera Anna OOmen, (2012) Conservation Biology Jules, (1979). Horticultural Science. (3rd Edn.) W.H. Freeman and Co., San Francisco, USA.

Mapping of course outcome with Bloom's Taxonomy

	K1 Recall	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create	
CO1	5	5	5	5	4	3	27
CO2	5	5	5	3	1	4	23
CO3	5	5	5	3	3	5	26
CO4	5	5	5	5	4	4	28
CO5	5	5	5	3	4	4	26
							4.3

BOT2657   LAB III (MICRO + ARCHE + HORTI)   2+2+2=6hrs.

The students will be able to
i. carry out basic microbiological techniques to explore the microbial world by conducting appropriate experiments.
ii. investigate different microbial habitat during the field study and daily walk of life.
iii. understand evolutionary relationship among different group of plant forms and analyze the morphological and physiological adaptations to varying habitats.
iv. identify different variety of plants to create garden, testify the quality of seed, acquire knowledge on propagules, grow plants using seeding and vegetative propagation techniques
v. build different protection facility, construct plant growing structures, practice propagating techniques for multiplication of plants.

MICROBIOLOGY
1. Good laboratory practices and observation of ubiquitous presence of microbes
2. Microscopic techniques – specimen preparation for compound and dissection microscopes
3. Simple staining and Gram staining
4. Media preparation and sterilization techniques
5. Microbial isolation from natural habitat– Serial Dilution
6. Pure culture techniques (Smear, spread and pour plate and streaking)
7. Morphological studies – colony characterization
8. Growth measurements: (Direct method, haemocytometer, turbidity method)
9. Assessment of microbial load in water sample
10. Microbial analysis of legume root nodules
11. Antimicrobial assay: sensitivity test with antibiotics.
12. Microbial assay for food and milk

Field and Industry visit (Any two):
  1. Aavin dairy farm, Madurai
  2. Sewage treatment plant, Vellaikkal
  3. Potable water treatment plant, Anaipatty
  4. Pasteur's Institute, Coonoor

References
  1. Cappuccino, J.G. and Sherman, N. (2002). Microbiology: a laboratory manual 6th ed. Pearson Education Ltd. Singapore.
  2. Gunasekaran, P. (2000). Laboratory manual in microbiology, New Delhi

ARCHEGONIATAE

1. Panoramic view of archegoniates : whole mount and charts
2. Liverworts (leafy / Non leafy): vegetative and reproductive features of *Riccia* & *Anthoceros*
3. A study on mosses based on *Sphagnum* / *Funaria*
4. *Lycopodium*-sectional view of stem & strobilus.
5. Ecological adaptations of *Equisetum*: Study of shoot and strobilus.
6. Aquatic ferns – *Azolla, Marsilea*
7. Morphology, rachis, pinna and sori of a fern.
8. Vegetative and reproductive structures of *Cycas*
9. Morphology and Anatomy of *Pinus*
10. Plant evolution I –activity based learning with Geological time scale
11 Plant evolution II – study of fossils
12. Field visits:

> Hill flora - Ooty / Kodaikanal
> Fossils - Ariyalur / Thiruvakkarai
> Local flora - Azhagar Hills, Madurai

References

1. Bendre, A. M., and Kumar, A. (2006). A text book of practical botany. (Vol I). Rastogi Publication New Delhi. ISBN 81-7133-809-7
2. Bendre, A. M. and Kumar,A. (2006). A text book of practical botany. (Vol II) Rastogi Publication New Delhi. ISBN 81-7133-852-6

Horticulture

1. Soil sampling technique and analysis
2. Preparation of Land – Cleaning, Ploughing, Plotting, Potting mixture
3. Sowing & Planting methods
4. Irrigation types
5. Crop nutrition: Manure (Compost, Panjakavya), fertilizers,
6. Crop protection – inorganic, organic & Biopesticide
7. Propagation techniques – Cutting, Layering, Grafting & Budding
8. Farm management practice – Pruning & Weeding
9. Plant growing structures
10. Kitchen Garden, Terrace garden
11. Components of garden – Landscape gardening
12. Horticulture tools and equipments

Field Visits:

> Horticultural station - Periyakulam
> Organic farm (Israel Technology) – Dindigul

References

1. Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.

BOT 2552   **MYCOLOGY & PATHOLOGY**   **5Hr./5Cr.**

This course uncovers the eukaryotic and achlorophyllous world of fungal biology, its classification and its biotic interaction. Later part of the course deals with the concept of pathogenesis and host response, citing examples of local disease occurrence and finally deals with conventional and modern methods of disease management. As an outcome of this course student will understand and appreciate the diversity and uniqueness of fungal kingdom and students are expected to identify, diagnose and manage the common disease of important crops.

At the end of the Semester students will be able to
   i.   understand the features of fungi and relate this knowledge to the daily walks of life.
   ii. gain an overview of classification based on structure, reproduction and life cycle patterns to distinguish the major groups of fungi.
   iii. recall the concepts in pathology to understand the mechanism of pathogenesis in delineating host pathogen interactions.
   iv. interpret the symptomatology to diagnose fungal, bacterial and viral disease to recommend suitable control measures.
   v.   understand epidemiology and forecast disease and employ suitable disease management strategies.

Unit 1: Basics of mycology   **(15 hr)**
General features of fungi, reproductive biology, fruiting body and spore print, spore dispersal and dormancy – fungal habitats and mode of nutrition –Economic importance.
Unit 2: Classification of fungi   **(15 hr)**
Alexopoulos and Mims (1979) classification – salient features of Gymnomycota (cellular and slime moulds), Mastigomycota (Oomycetes), and Amastigomycota (Ascomycetes, Basidiomycetes and Deuteromycetes) – fungal associations (lichens, mycorrhiza and endophytes).
Unit 3: Genesis of pathology   **(15 hr)**
Concept of plant disease – Koch's postulates – Disease tetrahedron – Pathogenesis (enzymes and toxins) –Structural and functional defense mechanisms in plants. Plant diseases and human civilization.
Unit 4: Plant diseases   **(15 hr)**
Classification, symptoms and diagnosis – traditional and molecular methods. Case studies: Bacterial disease (Bacterial blight, Citrus canker), Fungal disease (Red rot of sugarcane, Rice blast), Viral disease (Bunchy Top of Banana, TMV).

Unit 5: Disease management   **(15 hr)**
Epidemiology and forecasting – agrometeorology - Disease severity and estimation of crop loss - plant Quarantine – chemical, cultural and biological methods of disease management (*Pseudomonas fluorescens* and *Trichoderma viride*) – Integrated disease management.

Text books

1. Mehrotra, R. S. and Agarwal, A. (2003). Plant Pathology. 2ndEdn. Tata McGraw Hills Publi. Co. New Delhi ISBN 0-07-047399-4.
2. Mishra, B.K. (2017), Mycology and Phytopathology, Kalynai Publishers, New Delhi.
3. Sumbali, G. (2005). The Fungi. Narosa Publishing House. New Delhi. ISBN 81 -7319-512-9.
4. Sharma, P. D. (2017). Mycology and Phytopathology Rastogi Publication, Meerut.
5. Webster, J. and Weber R. (2007). Introduction to Fungi. 3rd Edition, Cambridge University Press. ISBN 05 2101 4832.

References

1. Alexopoulos, C. G. and Blackwell, M. (1996). Introduction to modern mycology, John Wiley. New York. ISBN 9814-12-612-8.
2. Agrios, G. N. (2006) Plant pathology. 5thEdn. Elseviers Publication, Academic press. New Delhi. ISBN 13: 978-81-312-0639-3.
3. Chaube, H. S. and Pundir, V.S. (2005). Crop disease and their management. Prentice Hall of India Pvt. Ltd. New Delhi. ISBN 81-203-2674-1.
4. Hull, R. (2002). Plant Virology. Elsevier Publication. Academic Press. New Delhi. ISBN 0-12- 361160-1.
5. Singh, R.S. (2005). Plant disease. Oxford and IBH publishing. Co. Pvt. Ltd. New Delhi. ISBN 81-204-1658-9.

Mapping of course outcome with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	4	5	4	4	2	2	21
CO2	4	4	4	4	5	3	24
CO3	5	4	4	4	3	3	23
CO4	3	3	4	5	5	2	22
CO5	4	4	4	4	4	5	25
	20	20	20	21	19	15	115
							115/30 = 3.8

BOT2454   **CELL BIOLOGY**   **4Hr/4Cr.**

This course is designed as preparatory course to understand and appreciate the living cells that serves as invisible backbones of all the life forms found in our earth. Architectural significance of organelles and other sub cellular components are highlighted for the students to explore and relate the structure and function of a typical cell. Various modes of cell multiplication mechanisms are also taught to motivate students to learn the basics of normal and abnormal cell division. A few tools and techniques commonly employed in cell biology are introduced to monitor and record the behaviour of a living cell. Students are expected to get a holistic picture of life cycle pattern of a cell at the end of the course.

At the end of the course, the student will able to
  i.   write a brief resume of cell science
  ii.   demarcate the importance of cell surface and matrix
  iii. identify the significance of the endomembranes and the vitality of GERL complex
  iv.   learn the role of nucleus as organelle for genetic material and the cell cycle events
  v.   acquaint knowledge on analytical procedures

Unit 1: Historical perspectives   **(15 hr)**
History –Cell theory – Organization of a prokaryotic and eukaryotic cell, endosymbiotic theory and evolution of plant cell –Exclusive features of plant cell (Cell wall, Vacuoles, cytoskeleton).Visualizing cells –Light Microscopy (cytochemistry,fluorescence, confocal scanning and phase contrast) – Electron Microscopy (TEM, SEM and Freeze Fracture) – Radioisotopes, Autoradiography and antibodies – Fluorescence-activated cell sorter.

Unit 2: Cell Surface and Matrix   **(10 hr)**
Cell wall organization – cytocavitory network - plasma membrane structure (unit membrane, fluid-mosaic model) and functions – cell adhesion, cell movement and extracellular matrix – properties of cytoplasm.

Unit 3: Sub cellular components   **(10 hr)**
Ultrastructure and functions of chloroplast and mitochondria–GERL complex - endoplasmic reticulum – golgi apparatus – lysosomes and peroxisomes – ribosomes and protein synthesis – micro bodies and ergastic substances (crystals and raphides).

Unit 4: Nucleus and cell duplication   **(10 hr)**
Nuclear envelope and nuclear matrix – organization of chromatin and chromosomes – DNA as a central dogma - mechanism of cell communication – cell division (amitosis, mitosis, meiosis) - cell cycle –abnormal cell cycle (apoptosis, tumour and cancer cells).

Unit 5: Analytical procedures   **(15 hr)**
Microsomal fraction - sample preparation and isolation of organelles (homogenization, differential and density gradient centrifugation) –silicone layer filtering centrifugation – patch-clamp technique –haemocytometry– tissue culture and cinemicrography.

Textbooks

1. De Robertis, E.D.P. and Robertis, E.M.F. (1991). Cell and molecular biology. Lea and Febiger
2. Becker, W.M., Kleinsmith, L.J., Hardin. J. and Bertoni, G. P. (2009). The World of the Cell. VII Edition. Pearson Benjamin Cummings Publishing, San Francisco.
3. Kimball T.W. (1984). "Cell Biology", Wesley Publishers. ISBN:978-0201117325
4. Power, C.B. (2017). Cell Biology, Himalaya Publishing House, New Delhi
5. Sahu, A.C. (2017). Essentials of Molecular Biology, Kalynai Publishers, New Delhi.

References

1. Gerald Karp. (2003). Cell Biology. 7th Edn. (International student version) John Willey. ISBN:9781118318744
2. Geoffrey M. Cooper (2015). 7th Edn. The Cell- A Molecular Approach, ASM publications Washington.
3. Albertis B., Johnson A., Lewis J., Raff M., Roberts K and Walter P., (2002). Molecular Biology of cell, 4th Edn. Garland Science Publ. ISBN 0-8153-4072-9.
4. Singh and Tomer, (2015). 10th Edn. Cell biology. Rastogi publications. Meerut. ISBN-978-81-7133- 969-3.
5. Lodish, H., Berk, A., Kaiser C. A., Krieger M., Scott M. P., Bretscher, A. and Matsudaira, P. (2008). *Molecular cell biology*. Macmillan.

Mapping of course outcome with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	
CO 1	5	5	5	5	5	5	30
CO 2	4	5	5	5	5	5	28
CO 3	4	5	5	5	5	4	28
CO 4	4	5	5	5	5	4	28
CO 5	5	5	5	5	5	5	30
							144/30
							4.8

BOT 2456   ANATOMY & REPRODUCTIVE BIOLOGY OF ANGIOSPERMS 4 Hr / 4 Cr

This course exposes students into the internal structure and organization of plants mostly angiosperms. Anatomy of vegetative and reproductive structure is given emphasis to know the complete changes in internal morphology that happens in the lifecycle of plants. Students will be trained to identify the tissue types and meristems which form the basis of growth. The reproductive organs which give rise to the gametes followed by the development of seed will be taught to the students to understand the essentials of reproduction. Students will also learn the applied part of anatomy and embryology which they can employ after learning the course in various field of their career such as making permanent slides, anatomical structures in printing technology, use of stains and mordant to print textiles, induction of polyembryony and parthenocarpy in horticulture.

At the end of the Semester, the Students will be able to

i. recognize different types of cells and tissues in plant anatomy with the theories related to meristem.

ii. conceptualize the primary and secondary structures of plant parts and understand the process of anomalous growth in plants.

iii. understand and describe the structure of stamen and pistil and the development of pollen and embryo sac.

iv. identify the agents of pollination and examine the embryo and endosperm in a seed.

v. gain confidence in sectioning and effectively using stains for staining and utilize technology to develop parthenocarpy.

Unit 1: Cells and Tissues (12 hr)
Basic frame work of plants: cell types, structure and functions – localization of cell – Meristems-types-theories.

Unit 2: Vegetative organization (12 hr)
Primary and secondary structure of root and stem (Dicot and Monocot)- Leaf anatomy (Dicot and Monocot) – nodal anatomy-abscission. Wood: stretched and compressed- heart wood-sapwood. Anomalous secondary growth of stem

Unit 3: Reproductive structures (12 hr)
Essential and auxillary units of flower – male gametophyte (Androecium – Stamen – Anther-Pollen grain) and female gametophyte (Gynoecium – Pistil – Ovary – Ovule - embryosac) - pollen grain - structure –types- germination- ovule and its types.

Unit 4: Pollination and fertilization   (12 hr)
Types and agents of pollination–pollen-pistil interaction, double fertilization and triple fusion-endosperm formation – types - embryo development - types – seed structure (dicot and monocot) – Fruit types.

Unit 5: Histological Techniques and Applied Embryology   (12 hr)
Microtomy - micro technique: sectioning- staining - permanent slide preparation - Annual rings - Maceration technique- Apomixis - polyembryony - parthenocarpy.

Text Books
1. Pandey, S.N. and Misra S.P. (2008). Taxonomy of Angiosperms. Ane Books Pvt Ltd. ISBN- 978-8180521768
2. Pandey B.P. (2012). Plant Anatomy. S.Chand & Company Ltd. ISBN- 9788121901451
3. Bhojwani, S.S and S.P. Bhatnagar, S.P. (2009). The Embryology of Angiosperms. 5th edition, Vikas Publishing. ISBN- 8125923462.

References
1. Burgess,J. (1985). An introduction to plant cell development. Cambridge University press.
2. Esau,K .(2002). Plant Anatomy. John Wiley and sons. ISBN 9 8141 2649 7.
3. Fahn,A (1989) Plant Anatomy. Mac Millan pub. New York. ISBN 008 028030 7. ISBN 05213 0273 0.
4. Maheshwari.P (1985) An introduction to the embryology of angiosperm. Tata McGraw Hill. ISBN 0 0709 9434 X
5. Raghavan V. (1986). Embryogenesis in angiosperms. Cambridge University Press. ISBN 0 5212 6771

Mapping of course outcome with Bloom's Taxonomy

	K1 Recall	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create	
CO1	5	5	5	4	3	2	24
CO2	5	5	5	5	3	1	24
CO3	5	5	5	4	2	2	23
CO4	5	5	5	5	5	4	29
CO5	5	5	5	5	4	2	26
	25	25	25	23	17	11	126
126/30=4.2							

BOT 2658   LAB IV (Myco+CellBio+ARBA)   (2+2+2 Hrs)

At the end of the course, students will be able to
i. locate and understand the characteristic features and habitats of micro and macro fungi,
ii. analyze the epidemiology and management of major plant diseases and apply the recent diagnostic methods in and around Madurai region,
iii. visualize the ultrastructure of a cell and subcellular components as a integrated entity,
iv. distinguish the organization of different cells and tissues in different organs of the plant through various sectioning and staining techniques,
v. identify inherent growth and developmental changes related to the reproductive processes of plants.

I - MYCOLOGY & PATHOLOGY (Lab) (2hr)
1. Observations of *Mucor* and *Rhizopus*
2. Mycelial studies and fruiting bodies of *Pilobolus*
3. Study of macro fungi from college campus
4. Documentation of plant diseases – rust, wilt, blast, rot, canker
5. Isolation of fungal plant pathogens
6. Isolation of plant pathogenic bacteria
7. Testing Koch's postulates – (*Rhizoctonia solani*) potted plants
8. Study of endophytes in plants
9. Disease assessment methods – different assessment scales (paddy)
10. Antagonistic study –dual culture assay
11. Mass production and formulation of biocontrol strains (*Trichoderma*, VAM)
12. In- vitro screening of fungicides against pathogens
13. Disease forecasting – web-based model

Field Visit:
Plant Pathology division, TNAU, Madurai.
Meteorological station, Kannivadi, Dindigul.

References
1. Aneja, K. R. (2009). Experiments in Microbiology, Plant Pathology, and Biotechnology. New Age International Publishers, New Delhi. ISBN 978-81-224-1494-3.

2. Alexopoulos, C. G. and Blackwell, M. (1996). Introduction to modern mycology, John Wiley. New York. ISBN 9814-12-612-8.

CELL BIOLOGY

1. Light and Phase contrast microscope - working principles through models
2. Cytological investigations: animal (mouth swab) and plant cell (Onion peel, *Tradescantia*).
3. Cytoplasmic streaming (Chara and Hydrilla)
4. Cell inclusions: Starch grains, raphides, Cystolith
5. Histochemical test for lipids, terpenes and secondary metabolites.
6. Chromosome staining
7. Isolation and observation of Chloroplast
8. Cell isolation technique
9. Mitosis: squash technique with onion root tip.
10. Meiosis: Rheo / Tradescantia anther Squash.
11. Chromosomal structure: Satellite and Giant Chromosome.
12. Electron microscope and cell imaging techniques

References

1. Santra S.C Chatterjee T.P. Das A.P (1989) College Botany Practical Volume 1, New central book agency, Kolkatta.
2. Shanmugam G 1988 Cell biology A laboratory Manual, Macmillan India Limited ISBN 033392 087 2
3. Sheeler P and Bianchi ED 1987.Cell and Molecular Biology.3rd ed. John willey and Son (Asian) Ltd. Singapore. ISBN: 9814-12-648-9.

PLANT ANATOMY AND REPRODUCTIVE BIOLOGY LAB

1. Examination of plant tissues (sectioning and staining).
2. Primary structures (C.S. of Dicot & monocot stem and root)
3. Anatomy of meristems – shoot tip and root tip
4. T.S. of secondary structure of stem and Anamolous secondary growth.
5. Anatomy of leaf (Dicot & monocot) & node.
6. Wood anatomy - any three timber (RLS & TLS)
7. Maceration and micrometry
8. Study of flower and inflorescence.
9. Stamen (Anther, Pollen types and pollen germination).
10. Pistil (Ovary, style, stigma, placentation and ovule structure).
11. Isolation of embryo (*Tridax, Cleome)*
12. Polyembryony in citrus and endosperm types, aril and haustoria

Submission:
1. Record and photomicrograph
2. Report of group activity

References

1. Johri.B.M. (1982). Experimental Embryology of Vascular plants –springer-verlag. Nerlin. ISBN 3 5401 0334 1.
2. Esau,K. (1977). Anatomy of seed plants.Wiley Eastern.Publ. ISBN 04712 4520 8.
3. Raghavan V. (1986). Embryogenesis in angiosperms, Cambridge University press. ISBN 05212 6771

BOT2359   **BOTANY FOR CHEMISTS-I**   3H/3CR

This course is designed for the chemistry students as a major supportive course with a basic understanding of plant forms and functions. Awareness is created on plants as a repository of biopolymer and biomolecules. Skills in recognizing and utilizing of biological resources are added.

At the end of the course, the students will be able to
  i. recognize the variations between the plant groups from the lower forms to the higher plants that they would not only know to judiciously use them but also would come forward to save and conserve them subscribing the values they learn from this study
  ii. view cell as the basic living entity of life and look at it as a fundamental self-contained and self-regulated structural and functional unit of all organisms and dare venturing into next level learning in biochemistry
  iii. hold the nucleus as the control centre of the cell account for cytochemical events happening within that they would gain confidence to the perform tasks in molecular biology.
  iv. develop a comprehensive picture of plant as autotrophic life forms and bio machines performing the feat water cycling, food production, carbon turn over and oxygen replenishment making earth a living planet.
  v. see the plant's ability to procure selective elements from their surroundings and use them effectively in making their metabolites so as to support their growth and development and draw inspiration for setting up their production units or industries contemplating on resource utilization and economy showcased in a plant of his or her choice

Unit 1: An overview of plant groups   **(9 hr)**
Basics of evolution- Five kingdom classification-Salient features of Algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.

Unit 2: Cell as the basic entity   **(9 hr)**
Prokaryotic and eukaryotic cells, endosymbiosis, chemistry of cell wall and plasma membrane, Structure and function of chloroplast and mitochondria.

Unit 3: Nucleus and heredity   **(9 hr)**
Organization of nucleic acids and chromosome – functions of nucleus- DNA as a genetic material and central dogma of life.

Unit 4: Plant – water relations and carbon assimilations   **(9 hr)**
Biological significance of water molecule (Osmotic relations, uptake an conduction). Photosynthesis (light dependent and light independent reaction). Respiration and energy harnessing (Glycolysis, TCA cycle and ETS).

Unit 5: Plant growth and nutrient management   **(9 hr)**
Plant nutrients – NPK (organic and inorganic sources) - deficiency symptoms – plant growth regulators (auxins, cytokinins, gibberellins, ABA and ethylene).

Textbooks
1. Pandey, B. P. (2005). College Botany, Vol I. 5th Edn., S. Chand & Company New Delhi. ISBN 81- 219-0593-1
2. Pandey, B. P. (2009). College Botany, Vol II. 7th Edn., S. Chand & Company New Delhi. ISBN 81- 219-0601-6
3. Sinha, R.K. (2004). Modern plant physiology. Narosa Publishing House New Delhi. ISBN 81-7319- 333-9
4. Sheeler P and Bianchi ED (1987).Cell and Molecular Biology.3rd ed. John willey and Son (Asian) Ltd. Singapore. ISBN: 9814-12-648-9.
5. Shanmugam G. (1988). Cell biology A laboratory Manual, Macmillan India Limited ISBN 033392 087 2

References
1. Berg, L.R. (1997). Introductory Botany: Plants, People & the Environment. ISBN-13: 978-0030248443.
2. Sheeler.P and Bianchi. E.D. (1987). Cell and Molecular Biology . 3rd ed. John . Willey and Son (Asian) Ltd. Singapore. ISBN: 9814-12-648-9
3. Devlin,R M and Witham,F.H. (1999). Plant Physiology, 4edn. CBS Publishers, New Delhi.
4. Sinha, R.K. (2004). Modern plant physiology. Narosa Publishing House New Delhi. ISBN 81-7319- 333-9

Mapping of course outcome with bloom's taxonomy

	K1 Recall	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create	Total
CO1	5	5	5	5	5	3	28
CO2	5	5	5	4	3	2	24
CO3	5	5	5	4	2	2	23
CO4	5	5	5	5	5	5	30
CO5	5	5	5	4	3	2	24
Total	25	25	25	22	18	14	129
129/30=4.3							

BOT2161 **BOTANY FOR CHEMISTS-I (LAB)** **2H/1Cr**

At the end of the end of the lab course, students will be able to
  i.   understand the diversity of plant kingdom
  ii. survey trees of the campus
  iii. learn the use instruments to study the basic biochemical parameters of soil
  iv. experience the physiology of plant system
  v.   identify symptoms in plant system

1. Morphology of *Sargassum, Riccia, Fern* and identification of cryptogams in field
2. Morphology of *Cycas*
3. Angiosperms – morphology of monocot and dicot plant
4. Survey of campus trees.
5. A study on plant cell - Onion peel/ *Tradescantia ,Hydrilla&Vernonia* (c.s. of stem)
6. Soil test – pH, temperature, EC, alkalinity, acidity.
7. Plant growth measurement and movement – auxanometer, phototropism.
8. Plant water relations: Potato osmoscope
9. Photosynthesis – DCPIP experiment, starch test
10. Transpiration – Cobalt Chloride paper test, stomatal index
11. Respiration –Kuhn's tube, Ganong's respiroscope
12. Collection and submission of plants specimens with mineral deficiency symptoms

References
1. Bendre, A. M., and Kumar, A. (2006). A text book of practical botany. (Vol I). Rastogi Publication New Delhi. ISBN 81-7133-809-7
2. Bendre, A. M. and Kumar,A. (2006). A text book of practical botany. (Vol II) Rastogi Publication New Delhi. ISBN 81-7133-852-6

BOT2360 BOTANY FOR CHEMISTS-II 3H/3CR

PREAMBLE: Plant life is essential for the survival of all animals and human being on earth. This course is aimed to inculcate the chemistry of economically important plants which are intertwining in our day today life and also the course is designed to cater the need of young mind of students who take chemistry as major. This course will kindle the inquisitiveness of the students. After completing this course, the students will be able to appreciate the plants in terms of its chemical makeup.

COURSE OUTCOME
At the end of the course, the students will be able to
  i. locate bioresources that are of potential utility in human welfare as plants yielding food, flavor, beverage, fiber, fuel and medicine besides that which are of socio-cultural significance, and evaluate them for phytochemical value
  ii. catalogue of secondary metabolites in plants, especially in the context of housing oils, alkaloids, glycosides, terpenoids, steroids and such other constituents that have potential applications in drug discovery
  iii. cull out plant recourses in the form of useful biopolymers, rubber, Non-alcoholic beverages and alcoholic beverages, wood, wood pulp and fruit pulp that serve as raw material for bio-based industries
  iv. experiment the idea of *Biotransformation* and *Bioprospecting* in the like of the production health tonic *Jeevani* which is shown as model for benefit sharing agreements and the protection for guarding indigenous & traditional knowledge
  v. reflect on the caution, risks ad dangers in trading of bioresources and make an assessment of supply and demand in standalone businesses and trading networks that a fair price is ensured at all times.

Unit 1: Assessment of bioresources (9 hr)
Bioresources and human welfare – types of bioresources (food, beverages, fiber, medicine, industrial resources, fuel), food and culture.

Unit 2: Chemistry of plant medicine (9 hr)
Brief study of Phytochemicals (secondary metabolites): source, useful part, active principles and used as essential oil: menthol, citronella; Alkaloids: curcumin; Glycosides – digitalin; Steroids – dioscorin; Flavanoids – pelargonium;

Unit 3: Plant produce as industrial inputs (9 hr)
Botany and chemistry of rubber. Pulp woods – grapes - papaya – potato – tapioca. Beverages: Non- alcoholic beverages -– history, botany, chemistry of tea, coffee and cocoa.

Unit 4: Bioprospecting and drug development (9 hr)
Jeevani, Artemisin, Noni, Brahmi, Indian Ginseng. Traditional knowledge as marker for bioprospecting: access and benefit sharing.

Unit 5: **Trade and conservation of resources** (9 hr)
Supply and demand assessment –threats – loss of resources – ex–situ and in–situ preservation methods - sustainable management- Cannabis and Opium - Drug abuse and addiction.

Textbooks
1. Trease G.E. and Evans. W.C. (2002). Pharmacognosy ELBS 15th Edition
2. Verma, V. (2009). *Text book of economic botany* Ane Books Pvt Ltd. New Delhi (ISBN - 978-81-8052-167-6)
3. Wallis,T.E. (2003).Test books of pharmacognosy CBS publishers and distributors New Delhi (Latest Edition)
4. Kochhar, S.L. (2011). *Economic Botany in the Tropics*, MacMillan Publishers India Ltd., New Delhi. 4th edition. (ISBN (13) 978-0230- 63893-8)
5. Suresh kumar, P., Varalakshmi, D. and Pullaih, T. (2016). Textbook of Pharmacognosy, Publisher: CBS Publishers & Distributors.

References
1. Anonymous. The Ayurvedic Pharmacopia of India Volume-I and IV, Govt. of India, Ministry of Health and Family Welfare, Department of Ayush.
2. Buchanan, B., Gruissem, W. and Jones, R. (2000). Biochemistry and Molecular Biology of Plants. American Society of Plant Biologists.
3. Kokate C.K. (2014). Practical Pharmacognosy, Vallabhprakashan, New Delhi, 5th edition.
4. Simpson, B B. and Ogorzaly, M.C. (2000). Economic Botany: Plants in our World 3rd Edition, McGraw Hill Book Company, New Delhi, ISBN-13: 978-0072909388.
5. Hill, a. F. (1937). *Economic botany: a textbook of useful plants and plant products,* Mcgraw-hill book company, Inc. New York and London.

Mapping of course outcome with bloom's taxonomy

	K1 Recall	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create	Total
CO1	5	5	5	5	5	3	28
CO2	5	5	5	4	3	2	24
CO3	5	5	5	5	5	3	28
CO4	5	5	5	5	5	5	30
CO5	5	5	5	5	5	3	28
Total	25	25	25	24	23	16	138
138/30=4.6							

BOT2162   **BOTANY FOR CHEMISTS-II (LAB)   2H/1Cr**

At the end of the course, the students will be able to
 i.   identify the basic importance of plants
 ii.   locate plant diversity in the college campus
 iii. extract common ingredients of plant like oil
 iv.   familiarize with fermentation technique
 v.   undrestand the importance of alternate fuels like biogas

COURSE OUTCOME
 1. Identification of plant resources mentioned in syllabus
 2. Locating potential plant resources on and off campus
 3. Survey of plant based medicines in local market
 4. Histo-chemical staining and identification of important phytochemicals
 5. Solvent extraction of selected plant ingredients
 6. Distillation of essential oil
 7. Extraction of bio-fuel from *Madhuca* / *Pongamia*
 8. Tea adulteration and testing
 9. Homemade chocolate preparation
 10. Fermentation - Wine preparation
 11. Biogas unit – design and demo
 12. Natural dyes – extraction and dyeing of fibres

References
 1. Hill, a. F. 1937. *Economic botany: a textbook of useful plants and plant products,* mcgraw-hill book company, inc. New york and london 1937
 2. Trease G.E. and Evans. W.C. (2002) Pharmacognosy ELBS 15th Edition.

BOT 3558   **BOTANY PROJECT**   **5hr./5Cr.**

Botany Project work is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation or problems. A project work will be given to the students to provide an opportunity to carryout research project at the department laboratories.

At the end of the semester, students will be able to
i. gain hands-on experience in designing and executing a research enquiry based on accepted scientific norms individually.
ii. inspect basic information, details and preliminary data based on which his research will be positioned
iii. perform scientific observations, collect and collate meaningful information.
iv. build arguments based on the strength drawn from the statistical tools and tests used for analyzing the data
v. translate his findings in the approved format with originality and to add the knowledge to the scientific community

Allocation
- Students will be allotted based on their academic performance
- Each research supervisor may be allotted a group not exceeding 8 students.

Evaluation
Interim assessment:
- Students need to make an interim presentation during the mid of sixth semester (after 45 working days). This interim report should form the basis for the final project report.

Final assessment:
- Final evaluation will be based on interim assessment, evaluation by the supervisor, dissertation and presentation at the end of the semester.

Mark distribution:

S.no	Details	Marks	(%)
1.	Interim assessment	20	
2.	Evaluation by supervisor*	30	CA (75%)
3.	Dissertation,	25	
4.	Final presentation	25	Final (25%)
	Total	100	

*(50% attendance mandatory, regularity, maintenance of data)

Dissertation format:

- Introduction
- Review of literature
- Materials and methods
- Result
- Discussion
- Summary
- Bibliography

Mapping of course outcome with Bloom's Taxonomy

	K1 (Recall)	K2 (Understanding)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	5	5	5	4	3	3	25
CO2	5	5	5	3	3	3	24
CO3	5	5	5	5	4	4	28
CO4	5	5	5	5	3	4	27
CO5	5	5	5	5	5	4	29
Total	25	25	25	22	18	18	133
133/30= 4.4							

BOT 222V   ORGANIC FARMING   2hr/2 Cr.

To understand the basic principles of organic farming and its practices. It helps to work with natural system rather than seeking to dominate them. The course encourage the students to enhance the biological system involving microorganisms, soil flora and fauna, plants and animals in maintaining the long term fertility of the soil. This course enables the students to develop their skills in organic farming and ensure field experiences. The organic farming involves the use of renewable resources and allow the agricultural producers an adequate returns and satisfaction from their work including safe drinking water.

At the end of the course the student will be able to
i. understand basic principles of organic farming.
ii. classify different organic manures in managing soil fertility.
iii. formulate biofertilizers and biopesticides with locally available resources.
iv. determine the techniques in compost making.
v. analyze social responsibility in organic agriculture.

Unit 1: Overview of organic farming   (6hrs)
Origin and principles –Ancient agricultural practices- Indian Agriculture–Pre and Post Green Revolution - types of farming: organic, integrated and mixed farming system –zero budget farming -Advantages.

Unit 2: Soil fertility   (6hrs)
Soils types in India-Components - physical, chemical and biological –Depletion of soil nutrients - Soil reclamation and enrichment - organic manures: farmyard manure (FYM) sheep and goat, oil-cakes, sludge and sullage manure.

Unit 3: Biofertilizers and Biopesticides   (6hrs)
Introduction –Scope of biological control- Storage and shelf life-Methods of application - Formulation of Panchakavya, Dasakavya - *Azolla* (cultivation) - VAM production – Green manure supplement - Fieldpest management (entomopathogenic fungus and plant extracts) Chemical pesticides Vs biopesticides –*Trichoderma viride, Pseudomonas fluorescens,* Neem formulations

Unit 4: Organic compost and Crop growth management   (6hrs)
Composting – importance and methods- microbes in composting -type and amount of compost - Vermicompost preparation – Value addition of FYM and VAC (Vuon-Ao-chuong)– Soil dependent cropping (crop rotation, intercropping, monoculture) - Stress management (soil pH, temperature, nutrients) water management (irrigation methods) - Rain water harvesting

Unit 5: Standardization and Application   (6hrs)
History and development of organic standards and certification process - organic standards setting processes - conformity assessment processes (international verification processes) - key challenges for the future of organic regulation- market potential of organic products - Social responsibility in organic agriculture.

Text books

1. Bansal M. "Basic principles of organic farming",India,2017

2 Kristensen, P., Taji, A. and Reganold, J., "Organic Agriculture: A Global Perspective", CSIRO Press, Victoria, Australia, 2006.

3.Subashini Sridhar, S.Arumugasamy, H,Saraswathy, K.Vijayalakshmi. (2002). "Organic vegetable gardening".

4. Maliwal P.L., (2020) " Principles of Organic farming".

5. Lampkin Nicolas. (1990). "Organic Farming", The University of Wisconsin - Madison. Farming Press.

References

1 Joshi, M., Setty, T.K.P. and Prabhakarasetty. (2006). "Sustainability through Organic farming", 1st edition, Kalyani Publishers, Ludhiana, India.

2 Bavec, F. and Bavec, M. (2007). "Organic Production and Use of Alternative Crops", CRC Press, Boca Raton, FL.

3. Dhaliwal,G.S. and Arora.R, (2006). Principles of insect pest management, Kalyani publisher, New Delhi.

Mapping of course outcomes with Bloom's Taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	Total
CO1	5	5	5	4	4	5	28
CO2	5	5	5	4	4	5	28
CO3	5	5	5	4	4	5	28
CO4	5	5	5	4	4	5	28
CO5	5	5	5	4	4	5	28
	25	25	25	20	20	25	113
						140/30 = 4.6	

BOT 322V   **SKILLS IN BIOLOGY**   **2Hr./2Cr.**

This is an add on course designed for an undergraduate student who is completing the regular course work so as to enable him to seek employment. The syllabus is prepared to introduce personal and job skills in biology and also help him to find a meaningful role. The course is aimed to give overall basic skills in biology. Further the content will focus mainly on the working lab condition where it is opted. After the completion of this course the student will be able to apply the acquired skills to find employment.

At the end of the course, the students will be able to
    i. handle tasks in identifying plants in field for vocational purpose
    ii. spot common diseases of plants and recommend solution
    iii. employ skills acquired in cut flower industry and take up commercial ventures.
    iv. utilize locally available plant resources to deal with health issues.
    v. take up technical positions for career in emerging and upcoming frontiers in drug development.

Unit 1: Field botany   (6hr)
Identification of plants based on their characters - collection of plants, herbarium techniques (collection, pressing, poisoning, drying, mounting, incorporation) - storage of plants – maintenance- herbarium ethics – Remote sensing (GPS, GIS) – Density of plants, mapping - Ecology of water, air and soil.

Unit 2: Crop care management   (6hr)
Identification of microbes and symptoms - ICT tools – identification of pest disease and symptoms - nutritional deficiency - isolation of microbes (plant affected parts/soil/water) - recommendation of biofertilizers - types of biofertilizers - mass production - quality analysis - field survey.

Unit 3: Floral aesthetics   (6hr)
History - Basic Principles of art in flower arrangement - basic elements of flower arrangement (line, shape, texture, colour) - types of flower arrangement (circular, conical, crescent, vertical, horizontal, Hogarth curve) - Conditioning cut flowers and foliage - Bouquet making - packaging & storage - Flowers carpets.

Unit 4: Pharmacognosy and folk medicines   (6hr)

Identification of bioactive compounds – Pharmacognosic inventory - Quantitative and qualitative analysis, Good harvesting and manufacturing practices (GMP) - compound extraction, isolation, characterization – In vivo studies – Experimental studies on animals – Pharmocodynamics and pharmocokinetics - ethical clearance

Unit 5: Biocomputing   (6hr)
Drug development software and databases - Structural Bioinformatics in Drug Discovery – Molecular docking - Phylogenetic Analyses software - UPGMA - Aligroove, Mesquite,

Dendroscope - Quantitative structure-activity relationship (QSAR) techniques in Drug Design, Drug targeting, drug delivery.

Textbooks

1. Agrios G.N. (2005). Plant Pathology, 5th edition. Vikas publications. New Delhi.
2. Harborne, (1998). Phytochemical methods, Chapman and Hall, Publ. ISBN 0 4125 7270 2.
3. Nalwa, H. S. (2002). Nanostructured Materials and Nanotechnology, Academic Press.
4. Pradeep, T. (2012). A Textbook of Nanoscience and Nanotechnology, Tata McGraw Hill Education Pvt. Ltd.
5. Sadasivam. S and A. Manickam. (2008). Biochemical methods for Agricultural Sciences, 2nd edn., New Age International Pub. Ltd., ISBN 978–81–224–2140–8
6. Suresh kumar, P., Varalakshmi, D. and Pullaih, T. (2016). Textbook of Pharmacognosy, Publisher: CBS Publishers & Distributors.

References

1. Packer, J. (1998). The Complete Guide to Flower Arranging, Publisher:Dorling Kindersley, ISBN13:9780751305890.
2. Prescott and Dunn's Industrial Microbiology. (2004). CBS Publ., ISBN: 81 2391 0010.
3. Singh, G. (2007). Plant systematics theory and practices. Oxford and IBH Publishing Co. ISBN 81-204-1652
4. Sundararajan, S. (2000). Practical manual of Angiosperm Taxonomy. Anmol publication New Delhi. (ISBN 81-261-0687-5).
5. Watson, J.D. et al. (2004). Molecular Biology of Gene 5th Edn. Pearson Edu. ISBN 0-321-22368-3.

Mapping of course outcome with bloom's taxonomy

	K1 (Recall)	K2 (Understand)	K3 (Apply)	K4 (Analyze)	K5 (Evaluate)	K6 (Create)	
CO 1	5	5	5	4	3	2	**24**
CO 2	5	5	5	4	4	2	**25**
CO 3	4	5	5	3	3	5	**25**
CO 4	4	4	5	5	4	3	**25**
CO 5	4	4	5	5	4	5	**27**
							126/30
							4.2

UNDERGRADUATE DEPARTMENT OF ECONOMICS

Value Added Courses
w.e.f. 2020-2021

SEM	Course No	Course Title	Hours	Credits
II	ECO 122V	Economics of Marketing	2	2
IV	ECO 222V	Business Environment	2	2
VI	ECO 322V	Economic Geography	2	2

ECO 122V   **Economics of Marketing**   **2Hrs/2 Cr**

       This course aims to familiarize students to create strategic and targeted online campaigns. This course also provides an in-depth knowledge of various components of marketing and their applications in business.

At the end of course, Students will be able to
   i. Understanding the significance and various segmentation of marketing
  ii. Analyzing the various forms of market and types of pricing
 iii. Applying new strategies in various field of marketing
 iv. Evaluating the innovative insights of digital marketing to have a competitive edge
  v. Creating new marketing environment in the view of global, national and local levels

Unit I: Introduction   **(6 hrs)**
Meaning of Marketing-Significance – Marketing Mix - Types of Market Segmentation - channels of distribution - Latest development in Marketing

Unit II: Market Structure   **(5 hrs)**
Meaning and Definitions of Market – Forms of Market Structure – Pricing and Types of pricing- Break-Even Analysis

Unit III: Marketing Strategies   **(5 hrs)**
Meaning of Marketing Strategies – Different Marketing Strategies-Product Strategy-Pricing Strategy - Distribution Strategy-Promotion Strategy

Unit IV: E-Marketing   **(7 hrs)**
Email Marketing- email marketing process - design and content- delivery - discovery- Mobile marketing - Process of mobile marketing- Digital Marketing - Differences of Traditional and Digital Marketing -5 D's of digital marketing – Merits and Demerits of digital marketing-Enhancing Digital Experiences with Mobile Apps.

Unit V: Emerging Marketing Environment in India   **(7 hrs)**
Small Scale and Large Scale retailing – Rural Marketing- Super market – Departmental Stores – Present Scenario of Marketing Environment in India - Pros and Cons of marketing in India

Text Books:
1. Sankaran, S., (2013), **Business Environment,** Margham Publications, Chennai.
2. Pillai, R.S.N and Bagwathi (2015), Modern Marketing – Principles and Practices, S. Chand and Company, New Delhi.
3. Radha, V., (2018), Business Environment, Prasanna Publications, Chennai.
4. Gupta, C.B. and N. Rajan Nair, (2020), Marketing Management, Sultan Chand & Sons, New Delhi.

References:
1. Yogesh Maheshwari, (2005), Managerial Economics, PHI Learning (P) Ltd, New Delhi.
2. Ahuja H.L.(2007), Managerial Economics: Analysis of Managerial Decision Making, S.Chand & Co-Ltd., New Delhi

3. Alok Satsangi (2010), A-Z Marketing, Printed in India, New Delhi.
4. Patrick Forsyth (2012), Conducting Sales and Marketing, Infinity Books, New Delhi.
5. Francis Cherunilam,(2017), Business Environment-Himalaya Publishing House, New Delhi.
6. Philip Kotler, (2019), Hermawan Kartajaya, and IwanSetiawan (P) Limited.

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analyzing)	K5 (Evaluating)	K6 (Creating)
CO1	1	2				
CO2			3			
CO3			3	4		
CO4				4	5	
CO5					5	6

Mean: 3.6

ECO 222V   Business Environment   2 Hrs/ 2 Cr

This course is to help the students to recognize the terms and conditions of business and also to acquaint the learner with the procedures of environment in business formalities

At the end of the course, students will be able to
  i.   Understand the business environment and trade performance
  ii. Create awareness on various functional aspects of economic Institutions.
  iii. Provide an outline to the basics of communication and its utility in business environment.
  iv. Highlight the business strategies and environmental working conditions of the business.
  v.   Identify the favorable business environment

Unit I: Meaning and Elements of Business Environment   5 Hrs
Meaning of Business Environment, Factors affecting environment to the business, Internal and External environment, Micro environment, Macro environment

Unit II: Cultural and Social Environment   6 Hrs
Nature, Impact of foreign culture on Business, Traditional Values and its Impact, Social Audit – Meaning and Importanceof Corporate Governance and Social Responsibility of Business and organizational behavior, other social/cultural factors, social responsibility of business

Unit III: Political and Legal environment   5 Hrs
Economic roles of the government and legal environment - Political Institutions - Legislature, Executive, Judiciary, Role of government inBusiness, Legal framework in India-Concept ofCapitalism, Socialism and Mixed Economy.

Unit IV: Economic Environment and International Business   7 Hrs
Nature of economy, Structure of the economy, Economic Policies (Monetary and Fiscal Policies), Economic conditions - Globalization and its drivers: Modes of entry into International business – Government intervention in International business.

Unit V: International and Technological Environment   7 Hrs
Concept and significance of technological environment, Regulation of foreign investment and collaboration - **GATT/ WTO:** Objective and Evolution of GATT, Uruguay round, GATT v/s WTO, Functions of WTO, Pros and Cons of WTO – FDI: Meaning, FDI concepts and functions, Need for FDI in developing countries, Factors influencing FDI, FDI operations in India

Text Books:
1. Dr. S. Sankaran (2013)**Business Environment,** Margham Publications,Chennai..
2. Dr.V. Radha, (2018) Business Environment, Prasanna Publications.Chennai.

Reference:
1. Datt, R., (2001), Second Generation Economic Reforms in India, Deep and Deep, New Delhi
2. Dheeraj Kumar Singh, (2006), Business Environment and International Business, 6th revised edition, Innovative Institute, www.innovative.org.in
3. Acharya, Shankar, (2008), India's Macroeconomic Management in the Nineties, ICRIER, New Delhi.
4. Morrison J, (2008), The International Business Environment, Palgrave
5. Ahluwalia, I.J. and IMD Little, (2012), India's Economic Reform and Development, Oxford University Press, Delhi.
6. Francis Cherunilam, (2018), Business Environment-Himalaya Publishing House, New Delhi
7. http://rccmindore.com/wp-content/uploads/2015/06/BBA-3-Business-Environment.pdf

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1		3			
CO2	1	2	3		5	6
CO3		2	3	4		6
CO4		2		4	5	6
CO5		2	3	4	5	6

Mean: 3.6

ECO 322V   **Economic Geography**   **2hrs/2Cr**

The objective of this course is to study spatial distribution of human's economic achievement in terms of production and consumption in relation to physical and non physical environment.

At the end of the course, students will be able to
  i.   Highlight the importance and relevance of economic geography for analyzing contemporary societies and key theoretical approaches to economic activities
  ii. Map out natural resources potential and its uses
  iii. Understand the importance of agricultural resources in the economic development
  iv. Examine the pace and pattern of industrial sector growth
  v.   Explain the role of trade and transportation

UnitI: Introduction   **(5 hrs)**
Introduction to Economic Geography- Nature, scope and Significance – Approaches – Dynamism of Economic Activities

Unit II: Natural and other Resources   **(6 hrs)**
Economic significance of minerals – distribution and product of iron ore, manganese, bauxite, copper, gold and mica – fuel resources – coal – petroleum – nuclear minerals – forest resources-marine resources – various grassland.

Unit III: Agriculture   **(7 hrs)**
World agriculture - factors affecting agriculture - types – distribution, production and trade of wheat, rice, maize, sugarcane, cotton, tea and rubber – types of Irrigation system.

Unit IV: Manufacturing Industry   **(6 hrs)**
Manufacturing industries – major inputs – locational factors – types of manufacturing — distribution of major industries – Major industrial regions of the world

Unit V: Trade and Transportation   **(6 hrs)**
Road, rail, water and air transports – major air and sea routes of the world – trade – factors influencing trade – technological revolution and trade.

Text Books
  1. Saxena, H. M. (2013), Economic Geography. Rawat Publication. New Delhi.
  2. S.D.Maurga (2020) Economic Geography Pravalika Publication, Allahabad.

References:
  1. Roy, P. K. (2014), Economic Geography: A Study of Resources, New Central Book Agency Ltd. Kolkata.
  2. Prithwish, Roy (2014): Economic Geography – A study of Resources, New Central BookAgency, Kolkata.
  3. Singh K. and Siddiqui, A. R., (2016), Economic Geography, Pravalika Publisher, Allahabad.

4. http://www.cssforum.com.pk/css-optional-subjects/group-vii/geography/14105-geography-two-economic-activities.html
5. http://web.ccsu.edu/faculty/kyem/GEOG110/Economic_Geography/Economic%20Geography.htm
6. http://www.fao.org/docrep/004/Y3557E/y3557e03.htm
7. http://shodhganga.inflibnet.ac.in/bitstream/10603/66410/9/09_chapter%202.pdf
8. https://www.rajras.in/index.php/b3-major-industrial-regions-of-the-world/

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analysing)	K5 (Evaluating)	K6 (Creating)
CO 1	1					
CO 2		2		4		6
CO 3		2		4		
CO 4		2		4	5	6
CO 5		2		4	5	6

Mean3.78

ECO 122V	சந்தையியல் பொருளாதாரம்	**2Hrs / 2 Cr**

இப்பாடத்திட்டத்தின் நோக்கம் மாணவர்களிடையே சந்தை பற்றிய நவீன உத்திகள் மற்றும் ஆன்லைன் சந்தையிடுதல் பற்றிய கருத்துக்களை உருவாக்குதல். மேலும் சந்தையியல் பற்றிய ஆழ்ந்த அறிவை மேம்படுத்துதல், சந்தையிடுதலின் பல்வேறு உட்பிரிவுகள் மற்றும் வணிக நவீனத்துவம் பற்றிய அறிவை வழங்குதல்

இப்பாடத்திட்ட முடிவின் போது மாணவர்கள் கீழ்காணும் சந்தையியல் அறிவை பெறமுடிகிறது
    i. சந்தையிடுதலின் முக்கியத்துவம் மற்றும் சந்தைபகுப்பின் வகைகளை அறிந்துகொள்ள முடிகிறது
    ii. சந்தை அமைப்பின் வகைகள் மற்றும் விலை நிர்ணய வகைகளை ஆராய்கிறது
    iii. சந்தைப்படுத்தல்துறையில்பல்வேறுநவீன உத்திகளைப்பயன்படுத்துதல்
    iv.சந்தையியல் பற்றிய நவீன மின்னணு தொழில்நுட்பத்தில் புதுமையான நுண்ணறிவுகளை மதிப்பீடு செய்தல்
    V. உலக, தேசிய மற்றும் பகுதிகளுக்கிடையான நவீன சந்தைப்படுத்தல் சூழலை உருவாக்குதல்

அலகு-I-அறிமுகம்   (6மணி)

    சந்தையிடுதல்: பொருள் – முக்கியத்துவம் – சந்தையிடுதல் கலவை – சந்தைப் பகுப்பின் வகைகள் –சந்தையிடுதலின் பகிர்வு வழித்தடங்கள் – சந்தையிடுதலின் நவீன முன்னேற்றம்

அலகு-II-சந்தை அமைப்பு   (5மணி)

    சந்தை இலக்கணம் – பல்வேறு சந்தை அமைப்புகள் – விலை நிர்ணயம் மற்றும் அதன் வகைகள் – சமன்பாட்டு புள்ளி பகுத்தாய்வு

அலகு-III- சந்தையிடுதல் உத்திகள்   (5மணி)

    சந்தையிடுதல் உத்திகள்: பொருள் –பல்வேறு வகையான சந்தையிடுதல் உத்திகள் – பொருள் தயாரிப்பு உத்திகள் - விலை நிர்ணயஉத்திகள் - பகிர்வுஉத்திகள் – முன்னேற்ற ஆக்க உத்திகள்

அலகு-IV- மின்னணு சந்தையிடுதல்   (7-மணி)

    மின்னஞ்சல் சந்தையிடுதல்: பொருள் –வழிமுறைகள் – வடிவமைப்பு மற்றும் உள்ளடக்கம் – கண்டுபிடிப்பு – கைபேசி சந்தையிடுதல் – வழிமுறைகள் – நவீன கணினிமயமாக்கப்பட்ட சந்தைப்படுத்தல்– பழமையான மற்றும் நவீன கணினிமயமாக்கப்பட்ட முறையிலான சந்தையிடுதலுக்கும் உள்ள வேறுபாடுகள் - நவீன கணினிமயமாக்கப்பட்டசந்தையிடுதலின் 5D's –நன்மை மற்றும் தீமைகள் – கைபேசியுடனான நவீன கணினிமயமாக்கப்பட்டசந்தைப்படுத்தல் அனுபவம்

அலகு-V- முன்னேற்ற இந்தியாவின் சந்தையிடுதல் சூழல் **(7-மணி)**

சிறியளவு மற்றும் பேரளவு சில்லறை விற்பனை – கிராமப்புற சந்தையிடுதல் – சிறப்பு அங்காடி – துறைவாரியாக பிரிக்கப்பட்ட சிறப்பு அங்காடி – இந்தியாவின் நவீன சந்தையிடுதல் சூழல் – இந்திய சந்தையிடுதலின்நன்மைகளும், தடைகளும்

Text Books:
1. Gupta, C.B. and N. RajanNair, (2020), Marketing Management, Sultan Chand & Sons, New Delhi.
2. Pillai, R.S.N and Bagwathi (2015), Modern Marketing – Principles and Practices, S. Chand and Company, New Delhi.
3. Radha, V., (2018), Business Environment, Prasanna Publications, Chennai.
4. Sankaran, S., (2013), Business Environment, Margham Publications, Chennai.

References:
7. Francis Cherunilam, (2015), Business Environment, Himalaya Publishing House, New Delhi.
8. Philip Kotler, (2019), HermawanKartajaya, and IwanSetiawan (P) Limited.
9. AlokSatsangi (2010), A-Z Marketing, Printed in India, New Delhi.
10. Patrick Forsyth (2012), Conducting Sales and Marketing, Infinity Books, New Delhi.
11. Ahuja H.L. (2007), Managerial Economics: Analysis of Managerial Decision Making, S.Chand& Co-Ltd., New Delhi.
12. Yogesh Maheshwari, (2005), Managerial Economics, PHI Learning (P) Ltd, New Delhi.

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analyzing)	K5 (Evaluating)	K6 (Creating)
CO1	1	2				
CO2			3			
CO3			3	4		
CO4				4	5	
CO5					5	6

Mean: 3.7

ECO222V   வாணிபச்சூழல்   **2 Hrs/ 2 Cr**

இந்த பாடத்திட்டம் மாணவர்களுக்கு வணிக விதிமுறைகள் மற்றும் நிபந்தனைகளை அங்கீகரிக்க உதவுகிறது.வணிக முறைகளில் சுற்றுச்சூழலின் நடைமுறைகளை கற்பவருக்கு அறிமுகம் செய்வதற்கு உதவுகிறது.

இப்பாடத்திட்ட முடிவின் போது மாணவர்கள் கீழ்காணும் வாணிபச்சூழல் அறிவை பெறமுடிகிறது

1. வணிகச் சூழல் மற்றும் வர்த்தக செயல்திறனைப் புரிந்து கொள்ளுதல்
2. பொருளாதார நிறுவனங்களின் பல்வேறு செயல்பாட்டு அம்சங்களைப் பற்றிய விழிப்புணர்வை உருவாக்குதல்.
3. தகவல்தொடர்பு அடிப்படைகள் மற்றும் வணிகச் சூழலில் அதன் பயன்பாடு குறித்த விளக்கத்தை வழங்குதல்.
4. வணிக உத்திகள் மற்றும் வாணிபச்சூழல் பணிநிலைமைகளை முன்னிலைப்படுத்தவும்.
5. சாதகமான வணிகச் சூழலை அடையாளம் காணுதல்

அலகு I:வணிகச் சூழலின் பொருள் மற்றும் கூறுகள்   (5மணி)

வணிக சூழலின் பொருள், வாணிபச்சூழலை பாதிக்கும் காரணிகள், உள் மற்றும் வெளிப்புற சூழல், நுண்ணியல் சூழல், பேரியல் சூழல்

அலகு II: கலாச்சார மற்றும் சமூக சூழல்   (6 மணி)

பண்பு, வணிகத்தில் வெளிநாட்டு கலாச்சாரத்தின் தாக்கம், பாரம்பரிய மதிப்புகள் மற்றும் அதன் தாக்கம், சமூக தணிக்கை –பெருநிறுவனநிர்வாகம் - பொருள் மற்றும் முக்கியத்துவம். வணிக மற்றும் பெருநிறுவனங்களின் சமூக பொறுப்பு, பிற சமூக / கலாச்சார காரணிகள், வணிகத்தின் சமூக பொறுப்பு

அலகு III: *அரசியல்மற்றும்சட்டசூழல்*   (5மணி)

அரசின்பொருளாதாரசெயல்பாடுகள்மற்றும் சட்ட சூழல் - அரசியல் நிறுவனங்கள் - சட்டமன்றம், நிர்வாக, நீதித்துறை, வணிகத்தில் அரசாங்கத்தின் பங்கு, இந்தியாவில் சட்ட கட்டமைப்பு - முதலாளித்துவம், சோசலிசம் மற்றும் கலப்பு பொருளாதாரம் பற்றிய கருத்து.

அலகு IV: பொருளாதார சுற்றுச்சூழல் மற்றும் **பன்னாட்டுவணிகம்** (7மணி)

பொருளாதாரத்தின் தன்மை, பொருளாதாரத்தின் கட்டமைப்பு, பொருளாதாரக் கொள்கைகள் (நாணய மற்றும் நிதிக் கொள்கைகள்), பொருளாதார நிபந்தனைகள் - உலகமயமாக்கல் மற்றும் அதன் இயக்கிகள்: சர்வதேச வணிகத்தில் நுழைவதற்கான முறைகள் - சர்வதேச வணிகத்தில் அரசாங்கத்தின் தலையீடு.

அலகு V: **பன்னாட்டு** மற்றும் தொழில்நுட்ப சூழல் (7மணி)

தொழில்நுட்ப சூழலின் கருத்து மற்றும் முக்கியத்துவம், அந்நிய முதலீடு மற்றும் ஒத்துழைப்பைஒழுங்குபடுத்துதல் – சுங்கவரி மற்றும் வாணிபம் சம்பந்தமான பொதுஒப்பந்தம் / உலகவர்த்தககழகம் (GATT / WTO): WTO இன் செயல்பாடுகள், WTO - FDI பொருள், அன்னிய நேரடி முதலீடு கருத்துக்கள் மற்றும் செயல்பாடுகள், வளரும் நாடுகளில் அந்நிய நேரடி முதலீட்டின் தேவை, அன்னிய நேரடி முதலீட்டை பாதிக்கும் காரணிகள், இந்தியாவில் அந்நிய நேரடி முதலீடு.

Text Books:
1. Dr. S. Sankaran (2013**)** Business Environment**,** Margham Publications,Chennai..
2. Dr.V. Radha, (2018) Business Environment, Prasanna Publications.Chennai.

Reference:
1. Datt, R., (2001), Second Generation Economic Reforms in India, Deep and Deep, New Delhi
2. Dheeraj Kumar Singh, (2006), Business Environment and International Business, 6th revised edition, Innovative Institute, www.innovative.org.in
3. Acharya, Shankar, (2008), India's Macroeconomic Management in the Nineties, ICRIER, New Delhi.
4. Morrison J, (2008), The International Business Environment, Palgrave
5. Ahluwalia, I.J. and IMD Little, (2012), India's Economic Reform and Development, Oxford University Press, Delhi.
6. Francis Cherunilam, (2018), Business Environment-Himalaya Publishing House, New Delhi
7. http://rccmindore.com/wp-content/uploads/2015/06/BBA-3-Business-Environment.pdf

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	KK5	K6
CO1	1		3			
CO2	1	2	3		5	6
CO3		2	3	4		6
CO4		2		4	5	6
CO5		2	3	4	5	6

Mean: 3.6

ECO 322V   பொருளாதாரப்புவியியல்   2hrs/2Cr

இப்பாடத்திட்டதின்நோக்கம்இயக்கம்மற்றும்இயக்கம்அல்லாதசூழலுடன்தொடர்புடைய உற்பத்திமற்றும்நுகர்வுஅடிப்படையில்மனிதனின்பொருளாதாரசாதனைகளின்இடஞ்சார்ந்தவிவரங்களைபடிப்பதாகும்.

இப்பாடத்திட்ட முடிவின் போது மாணவர்கள் கீழ்காணும் பொருளாதாரப்புவியியல் அறிவை பெறமுடிகிறது

i. சுற்றுச்சூழல் தொடர்பாக புரிந்து கொள்ளுதல், வளங்களின் பன்முகத்தன்மை மற்றும்மனித நடவடிக்கைகளின் செயல்பாடுகள்

ii. இயற்கைவளங்களின் சிறப்பு மற்றும் பயன்களைகண்டறிதல்

iii. பொருளாதார வளர்ச்சியில் விவசாயவளங்களின் முக்கியத்துவத்தை ஆய்வுசெய்தல்

iv. தொழில்துறைவளர்ச்சியின்நிலைகளைஆராய்தல்

v.வர்த்தகம்மற்றும்போக்குவரத்தின்பங்கைஅறிந்துகொள்தல்

அலகு - I :அறிமுகம்   5 மணி

பொருளாதாரபுவியியல்: அறிமுகம்- இயற்கை, நோக்கம்மற்றும்முக்கியத்துவம் - அணுகுமுறைகள் - பொருளாதாரசெயல்பாடுகளின்இயக்கவியல்

அலகு - II: இயற்கைமற்றும்பிறவளங்கள்   6 மணி

தாதுப்பொருள்களின்பொருளாதாரமுக்கியத்துவம் - இரும்புத்தாது, மாங்கனீசு, பாக்சைட், தாமிரம், தங்கம்மற்றும்மைக்கா - எரிபொருள்வளங்கள் - நிலக்கரி - பெட்ரோலியம் - அணுதாதுக்கள் - வனவளங்கள்- கடல்வளங்கள் - பல்வேறுபுல்வெளிகள்

அலகு - III: விவசாயம்   7 மணி

உலகவேளாண்மை - விவசாயத்தைபாதிக்கும்காரணிகள் - வகைகள் - கோதுமை, அரிசி, மக்காச்சோளம், கரும்பு, பருத்தி, தேநீர்மற்றும்ரப்பர்ஆகியவற்றின்விநியோகம், உற்பத்திமற்றும்வர்த்தகம் - நீர்ப்பாசனமுறை.

அலகு - IV: உற்பத்தித்தொழில்   6 மணி

உற்பத்தித்தொழில்கள் - முக்கியஉள்ளீடுகள் - இருப்பிடகாரணிகள் - உற்பத்திவகைகள் - முக்கியதொழில்களின்விநியோகம் - உலகின்முக்கியதொழில்துறைபகுதிகள்.

அலகு- V: வர்த்தகம்மற்றும்போக்குவரத்து   6 மணி

சாலை, ரயில், நீர் மற்றும் விமானப் போக்குவரத்து – உலகின் முக்கியவிமான மற்றும் கடல் வழிகள் - வர்த்தகம் – வர்த்தகத்தை பாதிக்கும் காரணிகள் – தொழில் நுட்பபுரட்சி மற்றும் வர்த்தகம்.

Text Books
1. Saxena, H. M. (2013), Economic Geography. Rawat Publication. New Delhi.
2. S.D.Maurga (2020) Economic Geography Pravalika Publication, Allahabad.

References:
1. Roy, P. K. (2014), Economic Geography: A Study of Resources, New Central Book Agency Ltd. Kolkata.
2. Prithwish, Roy (2014): Economic Geography – A study of Resources, New Central BookAgency, Kolkata.
3. Singh K.and Siddiqui, A. R., (2016), Economic Geography, Pravalika Publisher, Allahabad.
4. http://www.cssforum.com.pk/css-optional-subjects/group-vii/geography/14105-geography-two-economic-activities.html
5. http://web.ccsu.edu/faculty/kyem/GEOG110/Economic_Geography/Economic%20Geography.htm
6. http://www.fao.org/docrep/004/Y3557E/y3557e03.htm
7. http://shodhganga.inflibnet.ac.in/bitstream/10603/66410/9/09_chapter%202.pdf
8. https://www.rajras.in/index.php/b3-major-industrial-regions-of-the-world/

Mapping of the Course Outcomes with Bloom's Taxonomy

	K1 (Remembering)	K2 (Understanding)	K3 (Applying)	K4 (Analysing)	K5 (Evaluating)	K6 (Creating)
CO 1	1					
CO 2		2		4		6
CO 3		2		4		
CO 4		2		4	5	6
CO 5		2		4	5	6

Mean 3.78

UNDERGRADUATE DEPARTMENT OF COMMERCE

Value Added Courses
w.e.f. 2020-2021

SEMESTER	SUBJECT CODE	SUBJECT TITLE	HOURS	CREDIT
II	COM 122V	Creative Advertising	2	2
IV	COM 222V	Personal Finance	2	2
VI	COM 322V	Basics of GST	2	2

COM 122V   **CREATIVE ADVERTISING**   **2 Hrs / 2 Cr**

To impart the knowledge to the students about the various aspects and knowledge of creative advertising.

At the end of the course, students will be able to
  i.   Understand the basic concepts of creative advertising
  ii.   Evaluate the impact of advertising
  iii. Analyze the suitable media for advertising
  iv.   Apply the possible means of creating an advertisement copy
  v.   Examine the structure of advertising agency and prepare advertisement budget

UNIT I
Advertisement: Meaning – Definition- Evolution - Objectives - Features- Functions – Advantages- Limitations. Advertising: Meaning – Definition - Features - Advertising versus Publicity – Advertising and sales promotion and salesmanship.

(6 Hours)
UNIT II
Media Plan: Meaning- Definition - Selection of Media – Kinds of Media – Developing Advertising Campaign- Reach, Frequency and Impact - Timing.

(6 Hours)
UNIT III
Advertisement Copy: Meaning- Definition - Classification – Qualities, Slogans, Headings Spacing. Message Generation: Creative Copy – Press media- Audio Visual.

(6 Hours)
UNIT IV
Advertising Effectiveness: Meaning – Influencing Factors - Causes of Failure - Follow Up – Measuring Techniques. Ethical Issues in Advertising- Social Criticism of Advertising- Laws in Advertising.

(6 Hours)
UNIT V
Advertising Agency: Meaning – Objectives – Functions - Types- Structure- Departments- Remuneration- Pitching- Client- Agency Relationship- Revenue and Commission Systems- Process Setting and Allocating Budget-Various Methods of Budgeting.

(6 Hours)
REFERENCE BOOKS
  1. Chunnawala and Sethia, Advertising – Principles and practices , Himalaya Publishing house , New Delhi , 2017
  2. Philip Kotler and Garry Armstrong , Marketing An Introduction , Prentice Hall of India, New Delhi, 2007
  3. Manukonda Rabindranath , Advertising Promotions and News Media , DPS Publishing House India, New Delhi, 2013
  4. Haridas M.P: Advertising and Brand Strategy , Adhyayan Publishers & Distributors, New Delhi, 2011

WEB REFERENCE
1. https://www.coursera.org/lecture/brand-image-high-impact-campaign/what-is-creative-advertising-Rsvk2

	Bloom's Taxonomy					
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5					5	

Mean : 3.6

COM 222V   **PERSONAL FINANCE**   **2 Hrs / 2 Cr**

To inculcate insights among the students about personal finance and its strategies

At the end of the course, students will be able to
    i.   Understand the concepts of Personal Finance
    ii.   Develop and evaluate a plan to manage personal finance.
    iii.   Design and Implement suitable Asset Management Plan
    iv.   Identify strategies to Establish, Build and Control Credit.
    v.   Assess the common types of risks and risk management strategies for personal finance.

UNIT I
Personal Finance: Introduction – Meaning – Definition – Overview - Scope – Need – Significance – Components – Principles – Functions - Merits – Limitations – Personal Finance Planning – Plan Creation – Implementation – Evaluation techniques.
(6 Hours)

UNIT II
Types of Personal Finance: Banking – Mortgages – Insurance- Real Estate – Stock Market – Retirement Planning- Tax Planning – Other Planning –Personal Finance Strategies – Meaning – Factors influencing Personal Finance - Strategies for Individual Investors – Alternative investment strategies
(6 Hours)

UNIT III
Asset Management: Meaning – Definition – Importance - Developing a Strategic Asset Management Plan - Benefits – Role of Asset Management in Personal Finance - Individual Asset Management versus Corporate Asset Management
(6 Hours)

UNIT IV
Credit Management: Meaning – Definition – Scope - Importance – Benefits – Steps involved – Techniques - Policy – Factors contributing to the successful implementation.
(6 Hours)

UNIT V
Risk Management: Meaning – Types - Response - Effect – Importance - Techniques – Process – Merits – Limitations.
(6 Hours)

REFERENCE BOOKS
1. Jack Kapoor and Les Dlabay , Personal Finance, Mc Graw Hill Publications , 13th Edition, New Delhi , 2020
2. Murali. & Subbakrishna , Personal Financial Planning, Himalaya Publishing House, New Delhi, 2018
3. Arthur J. Keown, Personal Finance, Pearson Publications , 8th Edition, New Delhi, 2017
4. Kapoor , Personal Finance, Mc Graw Hill Publications, New Delhi , 2007

WEB REFERENCE

1. https://saylordotorg.github.io/text_personal-finance/

	Bloom's Taxonomy					
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		2				
CO2						6
CO3			3			
CO4					5	
CO5				4		

Mean: 4

COM322V　　　　　　　　**BASICS OF GST**　　　　　　　**2 Hrs / 2 Cr**

To acquire knowledge on the principles and provisions relating to Indirect Taxation system in India

At the end of the course, students will be able to
  i. Explain the Goods and Services Taxation system in India.
  ii. Demonstrate the Levy and Collection of GST.
  iii. Illustrate the Steps involved in Registration of GST and its Exemptions.
  iv. Assess the Goods and Services Tax and Input Tax Credit.
  v. Practice the Payment and Procedure for Filling of GST.

UNIT I
Goods and Services Tax : Indian Tax System - Canons of Taxation - Fundamentals of GST - Meaning– Salient Features– Advantages of GST - Dual GST Model - Goods and Services Tax Network [GSTN] .

(6 Hours)
UNIT II
Levy and Collection of Tax : Supply - Scope of Supply - Composite and Mixed Supplies – Exempted Supply - Time of Supply - Place of Supply - Value of Supply - Levy and Collection - Composition Levy - Exemptions - Person Liable to pay GST.

(6 Hours)
UNIT III
Registration under GST: Compulsory Registration – Exemption - Procedure for Registration - Deemed Registration - Cancellation of Registration - Revocation of Registration - Accounts and Records - Types of GST Audit.

(6 Hours)
UNIT IV
 Payment of Tax : Assessment of GST - Interest on Delayed Payment of Tax - Refund of Tax - Input Tax Credit - Eligibility for taking Input Tax Credit (ITC) - Blocked Credits.

(6 Hours)
UNIT V
Returns under GST: First Return - Revision of Returns - Penalty/Late Fee - E-waybills – Generation of one way bill- Exemption for E-way bill.

(6 Hours)
REFERENCE BOOKS
  1. Gupta S.S, GST Laws and Practices, Taxman's Publications, New Delhi. (Revised edition as per the latest assessment year)
  2. Reddy and Moorthy, Goods and Services Tax, Margham Publishers. Chennai. (Revised edition as per the latest assessment year)
  3. Mehrotra and Agarwal (2020), Goods and Services Tax, Sahitya Bhawan Publications, Agra. (Revised edition as per the latest assessment year)

WEB REFERENCE
1. https://icmai.in/upload/Students/Syllabus2016/Inter/Paper-11-Jan2020-Revised.pdf

	Bloom's Taxonomy					
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		2				
CO2				4		
CO3			3			
CO4					5	
CO5			3			

Mean : 3.4

UNDERGRADUATE DEPARTMENT OF
RELIGION, PHILOSOPHY AND SOCIOLOGY

Value Added Courses

w.e.f. 2020-2021

SEM	Course No	Course Title	Hours	Credits
I	RPS 121V	Yoga Philosophy	2	2
II	RPS 122V	Aesthetic Traditions of Tamil Nadu	2	2
IV	RPS 222V	Organizational Ethics	2	2
VI	RPS 322V	Positive Self Image	2	2

RPS 12IV   **YOGA PHILOSOPHY**   **2 Hrs/2 Cr**

Yoga is an ancient philosophy / art based on a harmonizing system of development for the body, mind and spirit. It is a practical aid, not a religion. Modern terms can rightly be designated as the technique of holistic living-human.

This course aims to understand Yoga traditions and its benefits, prevention of stress related health problems and rehabilitation through Yogic diet, meditation and naturopathy. It also aims all the students to inculcate Yoga in order to have a healthy livelihood.

At the end of the course the students will be able to,

  ➢ Make the students to understand the significance and benefits of Yoga.
  ➢ Students will be able to explain the forms of Yoga.
  ➢ Enable the students to validateYogic diet for healthy life.
  ➢ Make the students to analyze and to perform meditation.
  ➢ Make the students to assess Yoga and alternative medicine in terms of naturopathic values.

Unit I: Overview of Yoga   **(6)**

Significance – Origin (Patanjali – 196 & Thirumular – 3047) – Benefits

Unit II: Forms of Yoga   **(6)**
Asthanga Yoga (Vedic tradition) - *Bhakthi* Yoga - *Siddha* Yoga (Tamil tradition)

Unit III: Yogic Diet   **(6)**
Tamasic food – Rajasic food - Sattvic food

Unit IV: Mind Control (Meditation)   **(6)**
States of mind – *Buddha Vipassana – Yoga Nidra*

Unit V: Yoga and Naturopathic Medicine   **(6)**
Fasting – Hydrotherapy – Thermotherapy *(Sun bath)*

Books for Reference:

1. B.K.S Ayyangar. "Light of Yoga", Orient Lormen Pvt. Ltd, New Delhi.
2. S.C. Vasu, "Introduction to the Yoga Philosophy" Chomkhamba Sanskrit Sansthan, Varanasi.
3. N. Ramakrishnan, "Endrum Nalvalvu Tharum - Thirumularin Panniru Yogangal", Manivasakar Publication, Chennai.
4. Maharishi K. Arunachalam, Nature Cure, Gandhian Literature Society, Madurai.

Mapping of Course Outcomes with Bloom's Taxonomy

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Bloom's Taxonomy	**K1**	**K2**	**K3**	**K4**	**K5**
C1	1				
C2		2			
C3			3		
C4					5
C5				4	

Mean = 3.00

RPS 122V   **AESTHETIC TRADITIONS OF TAMILNADU**   **2 Hrs/2 Cr**

Aesthetics, the philosophical study of beauty and taste. It is closely related to the philosophy of art, which is concerned with the nature of art and the concepts in terms of which individual works of art and form are interpreted and evaluated.

This course aims to understand the nature of art with aesthetic sense, meaning, assessments and also help the students to realize the rich heritage and glorious traditions of Tamil Nadu with its classical Tamil language, magnificent monuments, exquisite temples, arts, forms and sculpture and diversified traditions.

At the end of the course the students will be able to,

> ➢ Make the students to understand the significance of Aesthetics.
> ➢ Students will be able to explain the types of Tamil Nadu Heritages.
> ➢ Enable the students to validate the essence of archaeology.
> ➢ Make the students to analyze the value of arts.
> ➢ Make the students to assess the art forms.

Unit 1: Outline   (6)
Definition, nature, scope, aesthetic approaches, experiences and values.

Unit II: Tamilnadu Heritages   (6)
Art and Architectures (Temples, Mosques and Churches).

Unit III: Tamilnadu Archaeology   (6)
Excavation (Keeladi) and under water archaeology (Poompuhar).

Unit IV: The Value of Arts   (6)
Applied aesthetics in Tamil literatures, poetry and drama.

Unit V: The experience of Art forms   (6)
Applied aesthetics in Tamil sculptors, paintings and other cultural art forms.

Books for Reference:

1. Noel Carroll, "Philosophy of Art: A Contemporary Introduction", Routledge publication, New York.
2. Balram Srivastava, "Nature of Indian Aesthetics", Chaukhambha Orientalia publication, Delhi.
3. K. K. Pillay, "Historical Heritage of the Tamils", MJP Publication, Chennai.
4. Chitra Madhavan, "History and Culture of Tamilnadu" Volume I & II, Chennai.
5. Ira Nakacami and Iramaccantiran Nakacami, "Art and Culture of Tamilnadu" Sundeep Prakashan publication, Chennai.
6. Su. Venkatesan, "Vaikai Nathi Nakarikam" Vikatan Publication, Chennai.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
C1	1					
C2		2				
C3		2				
C4			3			
C5					5	

Mean = 2.6

RPS 222V **ORGANIZATIONAL ETHICS** **2 Cr / 2 Hr**

This course deals with the effectiveness and efficiency of employees in work environment as to how to use the business information for the growth of an organization through ethical ways.

On completion of the course, students should be able,

- ➢ To understand the importance of Ethics and its need for career
- ➢ To identify challenges on ethical behavior in organizations
- ➢ To analyze how ethics can be applied in different fields
- ➢ To critically evaluate the recent trends in organizations and ethical practices
- ➢ To apply ethics in career

UNIT - I Understanding Career & Ethics **(6)**

Meaning, Concept of Career & Ethics – Dimensions of Information systems – Ethical considerations

UNIT - II Ethics in organization **(6)**

Understanding common Organization Structures - Need for ethical practices in organizations – Challenges on ethical practices.

UNIT - III Ethical issues in Enterprise Resource Planning **(6)**

Definition and objective of ERP – Ethical role of employees – Ethics and Integrity of data management.

UNIT - IV Understanding applied ethics **(6)**

Applied ethics in Profession – Education – Business – Engineering - Environment

UNIT - V Security and Ethical Issues **(6)**

Business ethics – Challenges in IT Security – Importance of ethics and its implications on business and employees.

Books for reference:

1. Joshi, Girdhar, "Management information systems", Oxford University Press, 2013
2. Joseph Valacich, Christoph Schneider, "Information Systems Today Managing the Digital World", My Lab, 2017
3. R.G. Frey, Christopher Heath Wellman, "A Companion to Applied Ethics", Blackwell Publishing, USA, 2003

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1		2				
CO2		2				
CO3				4		
CO4					5	
CO5			3			

Mean = 3.2

RPS 322V POSITIVE SELF IMAGE 2Cr / 2 Hr

Objective: This course deals with the dynamics of personality development and aims to train the students to explore and enhance their attitude and potential. Also it will help students to understand how self – image affects one's feelings, attitudes and behavior along with the consequences and cause of having win – lose or lose win attitudes and relationships.

On completion of the course, students should be able,
- ➢ Make the students to understand the meaning and significance of personality.
- ➢ Explain the types and development of one's self.
- ➢ Apply elements of projecting oneself in public domain.
- ➢ Evaluate how to develop relationships and differentiate behavioral patterns.
- ➢ Assess the value time management and its importance.

UNIT - I Personality (6)

Meaning – determinants - development of personality - Theories on personality development - What Makes a Winner

UNIT - II Self – Esteem and Self – Confidence (6)

Concept of Self - Types - Development of Self - Importance of Self esteem

UNIT - III Projecting one Self (6)

Dressing - Poise and Posture - Eye Contact and body Language - Physical Fitness - Table Manners - Getting Acquainted – Behavior in Introductions

UNIT - IV Developing a Win – Win Attitude (6)

Differentiating Assertive from Aggressive and Passive Behavior - Importance of assertiveness - Forgiveness as Part of the Healing Process - Maximizing People Tolerance - Becoming a Pro-active and Responsible Adult - Coping with difficult people and situations - Difference Between Reactive and Pro-active Response

UNIT - V Time Management (6)

Need for time management – Process – Advantages and disadvantages of time management – 7 habits of highly effective people.

Books for reference:

4. Stephen R. Covey, The Seven habits of highly effective people, Free Press,1990
5. Philip Burnard, Interpersonal Skills training ,Viva books private ltd,Newdelhi,1995
6. Sue Bishop, Assertiveness skills training, Viva books private ltd,Newdelhi,1996

Mapping of Course Outcomes with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1		2				
CO2	1					
CO3			3			
CO4					5	
CO5				4		

Mean = 3.00

UNDERGRADUATE DEPARTMENT OF COMPUTER SCIENCE

Value Added Courses
w.e.f. 2020-2021

Sem	Course No.	Course Title	Hours	Credits	Marks
I	COS 121V	Digital Communication Skills	2	2	30
II	**COS 122V**	**Exploring Office Tools (TL)**	**2**	**2**	**30**
III	COS 221V	Exploring Microsoft Excel(TL)	2	2	30
IV	**COS 222V**	**Graphics Designing Using Photoshop (TL)**	**2**	**2**	**30**
V	COS 321V	Emerging Technologies In Computer Science	2	2	30
VI	**COS 322V**	**Aptitude And Reasoning Skills**	**2**	**2**	**30**
		Total	**12**	**12**	**180**

COS 122V   **EXPLORING OFFICE TOOLS (TL)**   **2Hrs/2Cr**

This course aims at enabling the student to use Microsoft office tools in office works such as creating professional-quality documents, store, organize and analyze information and create dynamic slide presentations with animation, narration digitally and effectively and publish top notch articles, magazines and advertisements.

At the end of the course the student will be able to:
  i.   Recognize the basic features in Microsoft word.
  ii.   Create professional and academic documents.
  iii. Enhance presentation with advance graphic techniques.
  iv.   Identify the features of Publisher.
  v.   Develop and publish desktop application.

Unit I - Getting Started with Word   **5 Hrs**
Introduction – Working with Microsoft Word Files – Creating, Formatting Text and Paragraph - Indenting & Line Spacing - Bullets and Numbering - Finding and Replacing Text - Checking Spelling.

Unit II - Enhancing a Document   **6 Hrs**
Page Layout - Creating Tables & Formatting Tables - Sorting Text – Working with Illustrations – Header & Footer - Word Art - Mail-Merge - Printing a Document.

Unit III - Creating & managing Presentations   **6 Hrs**
Introduction to Presentation - Design Themes & Background Styles - Working with Picture, Movies, Tables and Shapes - Setting Animation & Transition Effect - Printing a Presentation.

Unit IV - Publisher Interface   **7 Hrs**
Getting Started With Microsoft Publisher - Navigate the Interface - Customize the Publisher Interface - Adding Content , Pages and Graphics to a Publication- Preparing a Publication For Printing and Sharing.

Unit V- Designing with Publisher   **6 Hrs**
Creating Business and Greeting Cards - Creating Calendars - Creating Brochures - Creating Flyers - Creating Website.

Text Book:
  1. Bittu Kumar, "Mastering MS Office", V&S Publisher, 2017.

References:
  1. Joan Labmert, "Microsoft Word 2019 Step by Step", Pearson Education, 2019.
  2. Linda Foulkes, "Learn Microsoft Office 2019", Packt Publising Ltd, 2020.
  3. https://edu.gcfglobal.org/en/subjects/office
  4. https://www.investintech.com/resources/blog/archives/9269-microsoft-publisher-beginners-guide.html

	K1	K2	K3	K4	K5	K6
CO1	1					
CO2						6
CO3				4		
CO4			3			
CO5			3			6

Mean = 3.8

COS 222V   GRAPHICS DESIGNING USING PHOTOSHOP (TL)   2Hrs/2Cr

The objective of the course is to establish and cultivate interest of the student in Graphic Design. This course familiarizes student with the editing capabilities of Adobe Photoshop software. The student will use the Adobe Photoshop interface and access its expansive set of features for image editing and basic manipulations.
On successful completion of the course, the student will be able to
i.   Point out the navigations and major functions of Adobe Photoshop interface and outline their specific operations.
ii.   Demonstrate methods for editing such as Adjusting Color, Resize and Crop images.
iii.   Use basic selections and master the various selection tools to modify, Inverse, Scale, Rotate, Distort, Skew & Warp a Selection.
iv.   Develop skills to Create, edit, delete and manage Layers.
v.   Design and edit images professionally using the tools by creating special effects, Filters and 3D effects.

Unit I - Introduction to Adobe Photoshop   5 Hrs
Introduction - Navigating Photoshop - Exploring Menus and Panels - File Manipulations - Exploring Toolbox - Options Bar - Customizing the Interface - Setting Preferences.

Unit II - Working with Images   6 Hrs
Photoshop Workspace - Keyboard Shortcuts - Menus – Bitmap & Vector Images – Image Resolution & Pixel Logic - Performing Image Basics - Rulers, Guides & Grids - Canvas Size & Canvas Rotation.

Unit III - Working with Selections   6 Hrs
Exploring Selection Tools - Making a Selection Based on Color Range - Refine Edges - Inverse, Modifying, Scaling, Rotating, Distorting, Skewing &Warping a Selection.

Unit IV - Layers and Text   7 Hrs
Background Layer - Working with layers - Using Perspective & Layer Styles - Blending Modes - Masking Layers and Types - Opacity & Fill - Working with Text & Text Effects.

Unit V – Creating Special Effects with Colors, Filters and 3D Animation   6 Hrs
Brush Tool - Colors & Swatches - Gradients - Pencil & Eraser Tools - Photo Retouching tools -Filters - Working with 3D Artwork and 3D shapes in Photoshop - Animation in Photoshop.

Textbook:
1. Peter Bauer, " Adobe Photoshop CC For Dummies", Wiley Publication 2nd Edition, February 2018.
2. Lisa DaNaeDayley & Brad Dayleyx, "Photoshop CC Bible", Wiley Publication, October 2013.

References:
1. Andrew Faulkner, Conrad Chavez, "Adobe Photoshop Classroom in a Book", Adobe Press, 2020.
2. www.photoshopessentials.com
3. https://www.guru99.com/photoshop-tutorials.html
4. https://blog.hubspot.com/

	K1	K2	K3	K4	K5	K6
CO1	1			4		
CO2			3			
CO3			3			
CO4						6
CO5						6

Mean : 23/6 = 3.8

COS 322V   **APTITUDE AND REASONING SKILLS**   **2Hrs/2Cr**

The objective of the course is to provide knowledge to the student to apply quantitative reasoning and mathematical analysis methodologies to understand and solve problems. This course will help to prepare student for success in future courses, gain skills for the workplace, and participate as productive citizens in our society.
On successful completion of the course, the student will be able to
   i.   Interpret the number relevant problems.
   ii. Solve the percentage and profit& Loss problem for enhancing aptitude skills.
   iii. Calculate the time and distance related problem for real world application.
   iv. Analyze the logical and reasoning problems.
   v.   Develop puzzle solving skills.

Unit I - Arithmetic Ability   **5 Hrs**
Numbers - Test of divisibility - HCF and LCM - Simplification - Square roots and Cube roots - Decimal Fractions.

Unit II - Percentages practice problems   **6 Hrs**
Percentage - Simple interest and compound interest - Profit and Loss - Ratio and proportion.

Unit III - Calculating Time and Distance   **6 Hrs**
Averages – Age related problems - Time and Work - Time and Distance.

Unit IV - Analytical and Logical Reasoning   **7 Hrs**
Odd man out – Word series – Direction test – Blood relationship – Coding and decoding

Unit V - Puzzle Solving   **6 Hrs**
Character Puzzles - Problems related to clocks and calendar -Seating arrangements

Text Book:
   1. Dr.Agarwal.R.S, "Quantitative Aptitude for Competitive Examinations", S.Chand and Company Limited, Revised & Enlarged Edition, 2020.

References:
   1. Dinesh Khattar, "Quantitative Aptitude for Competitive Examinations", Pearson, 4th Edition, September 2019.
   2. Abhijit Guha, "Quantitative Aptitude for Competitive Examinations", Tata McGraw Hill, 7th Edition, July 2020.
   3. Edgar Thrope, "Test Of Reasoning for Competitive Examinations", Tata McGraw Hill, 7th Edition, 2020.
   4. http://fw.freshersworld.com/placementweek/papers.asp

	K1	K2	K3	K4	K5	K6
CO1		2				6
CO2			3			
CO3			3			
CO4				4		
CO5						6

Mean: 24/6 = 4

DEPARTMENT OF
BACHELOR OF COMPUTER APPLICATION

Value Added Courses
W.e.f. 2020-2021

Semester	Course Code	Course Title	Hrs	Credit
I	BCA 121V	Graphics design with CorelDraw	2	2
II	**BCA 122V**	**Digital Media Design and Video Editing**	**2**	**2**
III	BCA 221V	Content Management System using Word Press	2	2
IV	**BCA 222V**	**Raster Graphics Editing**	**2**	**2**
V	BCA 321V	Data Visualizationwith Tableau	2	2
VI	**BCA 322V**	**Introduction to Azure MLS**	**2**	**2**

BCA 122V   **Digital Media Design and Video Editing**   **2 hrs/2 cr**

The aim of this course is to develop designing skills in students using Canva, KineMaster and PowerDirector, to gain immense knowledge of Poster cards, and video editing methods.

Upon the successful completion of the course the students will be able to

i.   Organize project files in Applications.
ii. Edit their graphics design with Canva, KineMaster, PowerDirector and choose the right effects.
iii. Choose various career options in graphics design.
iv. Create vlogs like YouTube channels.
v.   Design Posters, Business card, Invitation, and perform Video Editing.

UNIT 1:Canva   **6 hrs**
Introduction to Canva – Benefits of Canva – Canva Toolbar – Canva Tools – Creating Memes – Creating Posters – Creating Postcards – Creating eNews Headers.

UNIT2:Introduction to KineMaster   **5hrs**
Features of KineMaster - Uses of KineMaster - Creating and Saving a Project – Editing Videos - Trimming Videos - Adding Transition Effects to Videos-Adding Text to Videos - Video and Image Layers - Giving Effects on Layers.

UNIT 3: Working with Video effects   **7hrs**
Adding Voice-over to Videos -Chroma key - Adding Music to Videos - Recording Voice - Adding Overlay - Digital Story Telling - Merging Videos - Exporting and Sharing Videos.

UNIT 4: Introduction toPowerDirector   **5hrs**
Features of PowerDirector - Importing Media - Adding Media to the Timeline - Basic Video Editing - Inserting Transitions - Adding Effects - Cross Fade Effect - Mask Effect - Theme Effect - Collage Effect - Adding Particles.

UNIT 5:Working with Multimedia   **7hrs**
PiP Objects - Inserting Text- Adding Sound Tracks - Audio Transition - Adding Video Effects - Slideshow Creation - Story Creation - Combining Projects - Splitting Video Clips - Trimming Video Clips.

TextBooks:
1. David Dabner, Sandra Stewart, Eric Zempol, "Graphic Design School - The Principles and Practice of Graphic Design", Wiley Publications, 5th Edition, November 2018.
2. Steve Grisetti, "The Muvipix.com Guide to CyberLink PowerDirector 17: The fun, easy, powerful way to make great-looking movies", 1st Edition, November, 2018.

Reference Book:

1. Robert M.Goodman and Patrick McGrath, "Editing Digital Video - The Complete Creative and Technical Guide", McGraw-Hill, Inc, September 2002.

Web Resources

1. https://designschool.canva.com/tutorials/designing/
2. https://www.lyricalhost.com/blog/7-of-the-best-canva-video-tutorials-for-bloggers/
3. https://travelingtayler.com/canva-video-tutorials-for-beginners/
4. https://kinemastertutorial.blogspot.com/?m=1
5. https://www.cyberlink.com/learning/powerdirector-mobile
6. 3-editing-kompatibilitetstilstand.pdf
7. PowerDirectorTutorials.pdf
8. PowerDirector_UG_ENU.pdf
9. quickstart.pdf
10. PowerDirectorSaampleChapter.pdf

Mapping course outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	2					
CO2			3			
CO3			3			
CO4						6
CO5						6

Mean=4.0

BCA 222V   **Raster Graphics Editing**   **2Hrs /2 Cr**

The aim of this course is to provide an understanding of working with Photoshop and the basic photo corrections and navigating with selections, layers, and masks along with its web publishing techniques.

Upon successful completion of the course the students will be able to

i.   Understand the basic working environment of Photoshop and know the competency in identifying Photoshop interface elements.
ii. Apply various Photoshop tools for painting, selections.
iii. Demonstrate methods for basic photo corrections and working with layers.
iv. Construct simple documents with filters and masks.
v.   Create links and export the document.

UNIT 1: Introduction   **5 hrs**
Introducing Photoshop Environment - Palette - Working with Workspace - Opening Images -Image Size - Resolution settings - Scanning Images - Creating new Images - Color Management.

UNIT 2: Working with Tools   **7 hrs**
Painting Tools – Magic Eraser Tool – Art History Brush - Using Brush Palette – Setting Shape Dynamics - Selection Basics - Pixel Selections – Copying, Saving and Loading Selections - Filling and Stroking.

UNIT 3: Layers and Text Basics   **6 hrs**
Layers and Layer Sets-Layer Management - Locking Merging and Flattening Layers – Text basics - Using the Character Palette.

UNIT 4: Working with Filters and Masks   **7hrs**
Masks and Channels – Creating, Editing, Loading - Applying Filter – Blur filter - Gradient Mask - Applying the Brush Stroke Filters, Distort and Noise Filters, Sketch Filters, Render Filters

UNIT 5: Export and Publishing   **5hrs**
Proof and Adjust an image - Exporting Document - Creating Links within an Image - Web Publishing Techniques.

Text Book
1. Andrew Faulkner, Conrad Chavez, "Adobe Photoshop CC Classroom in a Book", Adobe Press Publisher, 1st Edition, 2018.

Reference Books
1. Martin Evening, "Adobe Photoshop CC for photographers ", 2018 Edition
2. Mark Myers, "Adobe Photoshop CC Advanced and Basics of Photo Editing Techniques", 1st Edition, 2019.

Web Resources
1. https://helpx.adobe.com/in/photoshop/tutorials.html
2. https://www.tutorialspoint.com/photoshop_online_training/index.asp
3. https://www.oberlo.in/blog/how-to-use-photoshop
4. https://www.universalclass.com/articles/computers/how-to-publish-and-back-up- images-using-adobe-photoshop-lightroom.html

Mapping course outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3			3			
CO4						6
CO5						6

Mean = 4.0

BCA 322V   Introduction to AzureMLS   2hrs/2cr

This course enables the student to understand the various problem-solving methods via appropriate usage of Machine Learning techniques and hands-on experience in Azure Machine Learning Studio (MLS) of choosing an algorithm, running data through a model, and deploying a trained model as a predictive web service.

Upon successful completion of the course, students will be able to

  i.   Understand the Concepts and Intuition of Machine Learning Algorithms.
  ii.   Prepare Data for use by an Azure Machine Learning Studio Experiment.
  iii. Apply Machine Learning No-Code Approach to Build and Evaluate Regression Models using Azure ML Studio.
  iv.   Train andEvaluate Classification Models in Azure Machine Learning Studio.
  v.   Build Clustering Models and Deploy Trained Models to make Predictions.

Unit 1: Introduction to Azure Machine Learning   5 hrs
Compare Machine Learning Categories - Overview of Supervised, Unsupervised and Reinforcement Learning- Choose the Correct Machine Learning Category.

Unit 2: Getting Started with Azure ML   5 hrs
Azure ML Terminology- Azure ML Studio Service -Workflow of Azure Machine Learning Experiment- Getting Data in ML Studio - Getting Data from ML Studio.

Unit 3: Linear Regression Models   6 hrs
Data Preparation- Understanding Regression Algorithm – Train, Score and Evaluate Models.

Unit 4: Classification Models   7 hrs
Understanding Classification-Training, Scoring and Evaluating Modules-Classifying Diabetes or not- Confusion Matrix.

Unit 5: Clustering   7 hrs
Creating a K-means Clustering Model using ML Studio-Preparing the Trained Model for Publishing as a Web Service.

Text Books:
1. SumitMund , "Microsoft Azure Machine Learning**",** 1stEdition**,** Packt Publishing, 2015
2. Jeff Barnes, "Azure Machine Learning", Microsoft Corporation, 1st Edition, 2015

Reference Book:
   1. Shai Shalev-Shwartz and Shai Ben-David , "Understanding Machine Learning", Cambridge University Press. 2017.

Web Resources:
1. https://cloudacademy.com/course/introduction-to-azure-machine-learning-studio/training-a-model/
2. https://www.udemy.com/course/machine-learning-using-azureml/
3. https://www.udemy.com/course/machine-learning-no-code-approach-using-azure-ml-studio/
4. https://towardsdatascience.com/introduction-to-machine-learning-for-beginners-eed6024fdb08
5. https://medium.com/towards-artificial-intelligence/machine-learning-algorithms-for-beginners-with-python-code-examples-ml-19c6afd60daa
6. https://intellipaat.com/blog/tutorial/microsoft-azure-tutorial/azure-machine-learning-ml-tutorial/
7. https://medium.com/data-science-reporter/a-simple-hands-on-tutorial-of-azure-machine-learning-studio-b6f05595dd73

Mapping Course outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3					5	
CO4					5	
CO5						6

Mean – 4.0

**UNDERGRADUATE DEPARTMENT OF
INFORMATION TECHNOLOGY**

BIT 2412   **R – LANGUAGE**   **5 (3+2) hrs/4 cr**

The course aims at teaching the essentials of R and trains the students to develop applications in R.

       Upon completion of this course students will be able to:

    i.   Acquire the basic knowledge on the fundamentals of R.
    ii.   Understand Variables and managing data concepts.
    iii.   Apply Simple functions and basic plotting symbols.
    iv.   Learn to know, how to use Graphic tools.
    v.   Gain knowledge on Big data and apply analytics to it.

Unit 1: Introduction   **(11 hrs)**
What is R - Downloading and Installing R – An Initial Impression - Script Code - The Art of Programming - Documenting Script Code - Graphing Facilities in R - Editors - Help Files and Newsgroups - Packages - Packages Included with the Base Installation - Packages Not Included with the Base - Installation - General Issues in R Quitting R and setting the Working Directory - Getting Data into R - First Steps in R - Importing Data.

Unit 2: Accessing Variables and Managing Subsets   **(13 hrs)**
 Accessing Variables from a Data Frame - The str Function - The Data Argument in a Function - The $ Sign – The attach function – Accessing subsets of data – Sorting the data – Combining two datasets with a common identifier – Exporting data - Combining Data Using a Matrix - Combining Data - Frame Function - Combining Data Using the list Function - Importing Data - Importing Excel Data - Accessing Data from Other Statistical Packages.

Unit 3: Simple Functions   **(13 hrs)**
The tapply Function - Calculating the Mean Per Transect - Calculating the Mean Per Transect more efficiently - The sapply and lapply Functions - The summary Function - The table Function - An Introduction to Basic Plotting Tools - The plot Function - Symbols, Colours, and Sizes - Changing Plotting Characters - Changing the Colour of Plotting Symbols - Altering the Size of Plotting Symbols - Adding a Smoothing Line – Loops – Functions – If Statements.

Unit 4: Graphic Tools   **(11 hrs)**
The Pie Chart - Pie Chart Showing Avian Influenza Data - The par Function - Bar Chart and Strip Chart - Box plot – Boxplots showing the Owl Data – Cleveland Dotplots – The Generic plot function – More options for plot function – Adding extra points, Text and Lines – The Pair plot – Panel Function – The Coplot – Combing types of plot.

Unit 5: Big Data Analytics   **(12 hrs)**
Getting an overview of Big Data: Introduction to Big Data - Structuring Big Data - Types of Data - Elements of Big Data - Big Data Analytics - Advantages of Big Data Analytics. Introducing Technologies for Handling Big Data: Distributed and Parallel Computing for Big

Data - Cloud Computing and Big Data - Features of Cloud Computing - Cloud Deployment Models.

Textbook:
1. JD Long, Paul Teeto, "R Cookbook: Proven Recipes for Data Analysis, Statistics, and Graphics", Second Edition, 2019.
2. Zuur, Alain, Ieno, Elena N., Meesters, Erik, "A Beginner's Guide to R", Springer-Verlag New York, 2009.
3. Seema Acharya, Subhasni Chellappan, "BIG DATA and ANALYTICS", Wiley publications, 2016.

References:
1. Parmar, Onkar, "R integrated with Symphony", Platform Computing Corporation, 2013
2. Norman Matloff, "The Art of R Programming: A Tour of Statistical Software Design", No starch press, 2011.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1					
CO2			3			
CO3				4		6
CO4					5	
CO5		2				6

Mean = 3.8

BIT 3211   **XML (Extensible Markup Language)   (3)Hrs / 2Cr**

The objective of this course is to gain the knowledge of creating dynamic web pages using XML.
Upon completion of this course students will be able to:
  i.   Gain the fundamental knowledge of HTML and XML.
  ii.   Apply the concepts of XML.
  iii. Develop an in- depth knowledge in SOAP.
  iv.   Gain the fundamental knowledge in Web services.
  v.   Gain the basic knowledge in applications of XML.

Unit 1: HTML and XML   (9 hrs)
HTML Introduction - HTML Elements. Introduction: XML - The Need for XML - Structured Data and Formatting - Advantages of XML – SGML – XML and HTML - World Wide Web Consortium (W3C) - Specifications and Grammars.

Unit 2: XML Documents   (8 hrs)
XML Applications and Tools - Creating and Viewing XML Documents - Transforming XML Documents - XML Document Syntax - Validating XML Documents with DTDs - XML Namespaces.

Unit 3: XML and SOAP   (9 hrs)
Validating XML Documents with Schemas - Introduction to Simple Object Access Protocol (SOAP) - SOAP's Use of XML and Schemas - Elements of a SOAP Message.

Unit 4: Introduction to Web Services   (8 hrs)
Architecture and Advantages of Web Services - Purpose of Web Services Description Language (WSDL) - WSDL Elements - Creating and Examining WSDL Files - ebXML Specifications - ebXML Registry and Repository.

Unit 5: XML applications   (11hrs)
B2B Scenarios - e-business system involved: delivery, sales, cross company communication - replacement for EDI - the document as the application - XML and relational databases – XML & dynamic Web publishing - benefits of XML schemas.

Text Books:
   1. DT Editorial Service, HTML 5, Black Book, Dreamtech Press, 2nd edition,2016.
   2. Jon Duckett, Beginning XML, Wrox publisher, 5th edition Joe Fawcett, 2012.
   3. Elliotte Rusty Harold, XML1.1 Bible published by John Wiley & Sons , 3rdEdition, 2010.

References:
   1. Lucinda Dykes and Ed Tittel ,XML for dummies, 4th Edition by Lucinda Dyces, 2005.
   2. B.M.Harwani, Developing Web Applications in PHP and AJAX, McGrawHill, 2010.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2		4		
CO3			3			6
CO4		2	3			
CO5			3		5	6

Mean = 3.5

Value Added Courses

w.e.f. 2020-2021

Sem	Course No.	Course Title	Hours	Credits
I	BIT 121V	Office Automation	2	2
II	**BIT 122V**	**Illustrator**	**2**	**2**
III	BIT 221V	Web designing using Dreamweaver	2	2
IV	**BIT 222V**	**Automated Testing using Selenium**	**2**	**2**
V	BIT 321V	Animation using open source Tool	2	2
VI	**BIT 322V**	**Quantitative Aptitude and Reasoning**	**2**	**2**
		Total	12	12

BIT122V   **ILLUSTRATOR**   **2hrs/ 2 cr**

This course enables the students to apply skills in the combination of creation, modification and formatting of raster and vector objects and type of elements to create design work.

Upon completion of this course students will be able to:

i. Identify the capabilities and functions of drawing, transformation and shape tools in Adobe Illustrator
ii. Demonstrate skills in the use of vector specific capabilities for typesetting
iii. Show efficient planning and file organization techniques
iv. Apply conceptual planning techniques in the development of graphic design pieces
v. Demonstrate working with color shapes and objects.

Unit 1: Introduction to Illustrator
Getting Started with Illustrator- CMYK vs RGB -Art Boards-Creating Your First Document-Exploring the Interface / Navigation - Overview of the Tools – Panels – Menus - Working with Layers - Working with Objects.

Unit 2 : Using the Tools
Selection Tools - Shape Tools - Pen Tool - Using Brushes and Custom Brushes - Pencil Tool -Shaper Tool - Creating Paths - Line Tools - Eraser Tools.

Unit 3: Adding color and Stroke
Color artwork - Swatches - Gradients - Recolor artwork- Drawing - Trace drawing - Creating shape vectors- Compounding vectors - Create and edit shapes - Colouring - Adding type.

Unit 4: Edit Artwork and paths
Isometric in Illustrator- Masking in Illustrator -Transform and edit artwork - Edit paths - guide to Pathfinder Shape mode - Organise content with layers - Creating a Biohazard Symbol.

Unit 5: Creating shadows and effects
Creating realistic shadows - Creating repeating patterns for fills and borders, Drawing 3-D artwork—isometric, dimetric, and trimetric views - Creating line effects for maps - LiveTrace to LivePaint to LiveColor explorations.

Text Book:

1. Brian Wood, "Adobe Illustrator Classroom in a Book (2020 release)", 1st Edition
   - Unit 1: Adobe Illustrator page no (32 - 55)
   - Unit 2: Adobe Illustrator page no (60 – 73)
   - Unit 3: Adobe Illustrator page no (80 – 89)
   - Unit 4: Adobe Illustrator page no (108 – 120)
   - Unit 5: Adobe Illustrator page no (372 -397)

References:
1. Robert Shufflebotham**,** Illustrator: Structured Learning a Beginner's Guide, 2017.
2. Adobe Illustrator CS6 Tutorial
3. https://www.pgsd.org/cms/lib07/PA01916597/Centricity/Domain/202/illustrator_for_beginners_tastytuts.pdf

Mapping Course Outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1			4		
CO2		2	3			6
CO3		2				6
CO4			3			
CO5				4	5	6

Mean = 3.8

3

BIT222V   **AUTOMATED TESTING USING SELENIUM   2hrs/ 2 cr**

The aim of the course is to develop the skill and knowledge in Selenium testing tool and its components. Students will be able to validate web applications across different browsers and platforms.

Upon completion of this course students will be able to:
  i.   Understand selenium fundamentals.
  ii.   Work with selenium IDE to create an automated test case for web applications.
  iii. Enhance the test cases by adding the JavaScript commands.
  iv.   Understand both the language bindings and the implementations of the individual browser controlling code.
  v.   Perform parallel execution of test cases and to create a selenium test case.

Unit 1: Selenium Fundamentals   (6hrs)
Introduction to Selenium - Features of Selenium - Selenium Version History - Advantages of Selenium - Drawbacks of Selenium – Introduction on Selenium Suite: Selenium IDE , Selenium RC, WebDriver, Selenium Grid.

Unit 2: Selenium IDE   (6 hrs)
Selenium IDE add-on – Advancement with new selenium IDE – Working principle of IDE – Components of IDE interface – Selenium commands – Key features of Selenium IDE – Selenium side runner.

Unit 3: Introduction to JavaScript   (6 hrs)
Introduction - Usage of variables – operators - control structures - looping structures - arrays and functions - mathematical functions - string functions – Window - Confirmation, alert message.

Unit 4: Selenium WebDriver   (7 hrs)
Introduction to Selenium WebDriver – Features of WebDriver - Selenium WebDriver Environment Setup - Web Elements and Operations - Web Element Locators – Selenium WebDriver API Commands – Understanding WebDriver events – Chrome driver: installing driver, test script for chrome browser, using chrome options.

Unit 5: Selenium Grid and Selenium Projects   (5 hrs)
Introduction to Hub and Node – Configuring Selenium Grid – Hub configuration parameters– Different ways to specify the Configuration - Create Selenium Test Cases - Execute Test Batches and Analyze Test Results.

Text Books:
1. SatyaAva sarala, Selenium WebDriver Practical Guide, Packt Publishing, 2014.
2. DT Editorial Service, HTML 5, Black Book, Dreamtech Press, 2nd edition,2016
3. David Burns, Selenium 2 Testing Tools_ Beginner's Guide, Packt Publishing, 2012.
             Unit 1: Selenium WebDriver Practical Guide, Page no: (9-15)
             Unit 2: Selenium 2 Testing Tools_ Beginner's Guide, Page no: (7-34)

Unit 3: HTML 5, Black Book page no: (265-386)
Unit 4: Selenium WebDriver Practical Guide, Page no: (21-41) (61-77) (105-124)
Unit 5: Selenium WebDriver Practical Guide, Page no: (169-190)

References:

1. Unmesh Gundecha, Selenium Testing Tools Cookbook, 2nd Edition, Packt Publishing, 2015.
2. David Burns, Selenium 1.0 Testing Tools_ Beginners Guide, Packt Publishing, 2010.

Mapping Course Outcome with Bloom's Taxonomy

	K1	**K2**	**K3**	**K4**	**K5**	**K6**
CO1	1	2				
CO2		2		4		6
CO3		2	3			6
CO4	1		3	4		6
CO5					5	6

Mean = 3.6

BIT322V   QUANTITATIVE APTITUDE AND REASONING 2hrs/2cr

This course helps the students to develop their logical thinking, reasoning and arithmetic ability. It also enables the students to crack the competitive exams.
Upon completion of this course students will be able to:

    i.   Perform operations on numbers and simplification process.
    ii.   Gain knowledge on ratio, profit and loss.
    iii.   Solve problems based on time and distance.
    iv.   Understand the interest calculations and probability.
    v.   Acquire the knowledge on logical reasoning and verbal analogies.

Unit 1: Problems on Number   **(6 hrs)**
Numbers - Problems on numbers-HCF and LCM-Divisibility-Simplification-Average.

Unit 2: Ratio   **(6 hrs)**
Problems on age - Ratio and Proportion- Alligation and Mixture - Variation-Profit and Loss.

Unit 3: Time based problems   **(6 hrs)**
Time and work-pipe and cistern-Time and distance -Boats and streams-Problems on train.

Unit 4: Probability   **(6 hrs)**
Simple interest – Compound interest- -Probability-Permutation-Combinations - Data Interpretation.

Unit 5: Reasoning   **(6hrs)**
Verbal analogies - Number series - Alphabet series - Coding and Decoding - Logical Reasoning - Venn diagram-Syllogism.

Text books:
    1. R.S. Agarwal,Quantitative Aptitude for Competitive examinations, S.Chand publications, 2020.
    2. R.S. Agarwal, A Modern approach to verbal and non verbal Reasoning, S.Chand and company,2018.
        Unit 1: Quantitative Aptitude for Competitive examinations Page No: (3-66) (139-160)
        Unit 2: Quantitative Aptitude for Competitive examinations Page No: (182-194) (251-310) (435-444)
        Unit 3: Quantitative Aptitude for Competitive examinations Page No: (341- 424)
        Unit 4: Quantitative Aptitude for Competitive examinations Page No: (445-486) (613-631)
        Unit 5: A Modern approach to verbal and non verbal Reasoning Page No: (1-94) (139-219) (346-383) (section II 1-120)

References:
    1.R.V.Praveen, Quantitative Aptitude for Reasoning – PHI Learning Private Limited, 2016.

Mapping Course Outcome with Bloom's Taxonomy

	K1	K2	K3	K4	K5	K6
CO1	1	2			5	
CO2		2	3	4		6
CO3	1				5	
CO4		2	3			6
CO5		2	3	4	5	

Mean = 3.4

UNDERGRADUATE DEPARTMENT OF DATA SCIENCE
w.e.f. 2020-2021

Sem	Part	Course No.	Course Title	Hrs	Credit	Marks
1	I	TAM/FRN/ HIN XXXX	Language	3	2	30
1	II	ENG XXXX	English – I	3	2	30
1	III C	DSC 1401	Programming Paradigms	4	4	60
1	III C	DSC 1503	Relational Database Management Systems	5	5	75
1	III C	DSC 1405	RDBMS Lab	4	4	60
1	III S	DSC 1407	Digital Principles and Applications	5	4	60
1	IV E	DSC 1201	Data Science for Beginners	3	2	30
1	IV LS	DSC 1203	Data Analysis using Spread Sheet (T + L)	3 (2+1)	2	30
			Total	**30**	**25**	**375**
2	I	TAM/FRN/ HIN XXXX	Language	3	2	30
2	II	ENG XXXX	English – II	3	2	30
2	III C	DSC 1402	Principles of Data Science	4	4	60
2	III C	DSC 1504	Object Oriented Programming with Java	5	5	75
2	III C	DSC 1406	Object Oriented Programming Lab	4	4	60
2	III S	MAT XXXX	Theory of Probability	5	4	60
2	IV E	DSC 1202	Marketing Analytics	3	2	30
2	IV LS	DSC 1204	Windows and File Management (T + L)	3 (2+1)	2	30
2	V		PED/NSS/SLP		1	15
			Total	**30**	**26**	**390**
3	I	TAM/FRN/ HIN XXXX	Language	3	2	30
3	II	ENG XXXX	English – III	3	2	30
3	III C	DSC 2501	Data and Business Analytics	5	5	75
3	III C	DSC 2503	Data Structures	5	5	75
3	III C	DSC 2505	R Programming	5	5	75
3	III C	DSC 2407	R Programming Lab	4	4	60
3	III S	MAT XXXX	Statistics for Data science	5	4	60
			Total	**30**	**27**	**405**

Sem	Part	Course No.	Course Title	Hrs	Credit	Marks
4	I	TAM/FRN/ HIN XXXX	Language	3	2	30
4	II	ENG XXX	English – IV	3	2	30
4	III C	DSC 2502	Artificial Intelligence	5	5	75
4	III C	DSC 2504	Data Mining and Warehousing	5	5	75
4	III C	DSC 2506	Python Programming	5	5	75
4	III C	DSC 2408	Python Programming Lab	4	4	60
4	III S	MAT XXXX	Resource Management Techniques	5	4	60
4	V		PED/NSS/SLP		1	15
			Total	**30**	**28**	**420**
5	III C	DSC 3601	Machine learning (T + L)	6 (4+2)	6	90
5	III C	DSC 3603	Software Engineering	6	6	90
5	III C	DSC 3605	Data Science Project Lab 1 (T + L)	6 (2+4)	6	90
5	III C	DSC 3507	Data Visualization	5	5	75
5	IV VE	HVS XXX	Human Values	4	2	30
5	IV LS	DSC 3201	Tableau (T + L)	3 (1+2)	2	30
			Total	**30**	**27**	**405**
6	III C	DSC 3602	Reinforcement Learning (T + L)	6 (4+2)	6	90
6	III C	DSC 3604	Big Data Analytics	6	6	90
6	III C	DSC 3606	Data Science Project Lab 2 (T + L)	6 (2+4)	6	90
6	III C	DSC 3508	Data Security and Compliance	5	5	75
6	IV EVS	DSC 3200	Environmental Studies	4	2	30
6	IV LS	DSC 3202	Internet of Things	3	2	30
			Total	**30**	**27**	**405**
			Grand Total (Semester I – VI)	**180**	**160**	**2400**

C: MAJOR CORE   S: MAJORSUPPORTIVE
E: NONMAJOR ELECTIVE   VE:VALUE EDUCATION
LS: LIFESKILL   EVS : ENVIRONMENTAL STUDIES
VAS – VALUE ADDED COURSES

Part III Supportive

Sem	Course No.	Course Title	Hours	Credits	Marks
1	DSC 1407	Digital Principles & Applications	5	4	60
2	MAS XXXX	Theory of Probability	5	4	60
3	MAS XXXX	Statistics	5	4	60
4	MAS XXXX	Resource Management Techniques	5	4	60
		Total	**20**	**16**	**240**

Part IV Non-Major Electives

Sem	Course No.	Course Title	Hours	Credits	Marks
1	DSC 1201	Data Science for Beginners	3	2	30
2	DSC 1202	Marketing Analytics	3	2	30
		Total	**6**	**4**	**60**

Part IV Life Skill Courses

Sem	Course No.	Course Title	Hours	Credits	Marks
1	DSC 1203	Data Analysis Using Spread Sheet (T + L)	3(2+1)	2	30
2	DSC 1204	Windows and File Management (T + L)	3(2+1)	2	30
5	DSC 3201	Tableau (T + L)	3(2+1)	2	30
6	DSC 3202	Internet of Things	3	2	30
		Total	**12**	**8**	**120**

Value Added Courses

Sem	Course No.	Course Title	Hours	Credits
1	DSC 121V	SPSS for Data Analysts	2	2
2	DSC 122V	Web Programming	2	2
3	DSC 221V	Scripting Language using PHP	2	2
4	DSC 222V	OOA and Design Pattern	2	2

Department of Data Science (UG)

Program Specific Objective (PSO)

1. Understanding the insights and working principles of Data Science.

2. Explore technical knowledge in diverse areas of Data Analytics for handling data for higher studies and a thriving career.

3. Attain the ability to adapt new technologies and upgrade their skills through their life-long learning with an attitude towards their human values and ethics.

4. Generate creativity to recognize potential risk and provide innovative solutions in various business domains.

5. Adapt and apply mathematical techniques and data analytical tools to solve complex problems in the data domain.

6. Understand the basic concepts of computing techniques and fundamentals of mathematics programming and data science domain.

7. Provide framework for Data Science users with tools that will assist them in their decision-making when faced with Information Technology ethical dilemmas.

8. Meet the programming skills and technical skills which is the requirements of the IT based industries

9. Adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning.

10. Understand the basic concepts of digital fundamentals, OOP concepts, Databases, and analytics.

Program Outcomes (PO's)

PO 1: Abstract Thinking: Ability to understand the abstract concepts that lead to various data science theories in Mathematics, Statistics and Computer Science.

PO 2: Problem Analysis and Design: Ability to identify, critically analyze and design solutions to data science problems using fundamental principles of mathematics, statistics, computing sciences, and relevant domain disciplines.

PO3: Qualitative and Quantitative Results: Provide solutions to the complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computational science, and relevant domain disciplines.

PO 3: Modern Software Tool Usage: Acquire the skills in handling data analytical tools towards problem solving and solution analysis for domain specific problems.

PO 4: Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO 5: Innovation and Entrepreneurship: Produce innovative IT solutions and services based on global needs and trends.

PO 6: Societal and Environmental Concern: Utilize the data science theories for societal and environmental researches.

PO 7: Professional Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities and norms of processional computing practices.

PO 8: Conduct Investigations and Complex Computing Problems: Use research based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.

PO 9: Applications in Multi-disciplinary domains: Understand the role of statistical approaches and apply the same to solve the real life problems in the fields of Data Science
.
PO 10: Project Management: Apply the research based knowledge to analyze and solve advanced problems in Data Science.

Mapping of Courses Outcomes (COs) with Programme Specific Outcomes (PSOs)

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
DSC 2501	✓	✓	✓			✓				
DSC 2503		✓	✓	✓						
DSC 2505					✓	✓		✓		✓
DSC 2407			✓		✓			✓		
DSC 2502	✓		✓	✓				✓		
DSC 2504		✓		✓		✓				
DSC 2506		✓	✓	✓				✓	✓	
DSC 2408					✓			✓	✓	
DSC 122V		✓		✓		✓		✓	✓	✓
DSC 221V				✓	✓	✓		✓		
DSC 222 V			✓	✓	✓		✓		✓	

Mapping of Programme Specific Outcomes (PSO's) with Program Outcomes (PO's)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
PSO1	✓	✓		✓	✓		✓	✓		
PSO2	✓	✓		✓	✓	✓	✓			
PSO3	✓	✓		✓	✓	✓	✓			
PSO4	✓	✓		✓		✓	✓		✓	
PSO5	✓	✓		✓	✓	✓			✓	
PSO6	✓	✓		✓		✓	✓	✓		
PSO7	✓	✓		✓	✓	✓			✓	
PSO8	✓	✓		✓	✓	✓			✓	
PSO9	✓	✓		✓	✓	✓		✓	✓	
PSO10	✓	✓		✓	✓	✓		✓	✓	

.

DSC 2501   **Data and Business Analytics**   **5Hrs / 5 Cr.**

The aim of this course is to deliver the overview of digital data representation support for Business Need. On successful completion of this course the students will gain knowledge on Business Analytics with the support of popular tools that will assist them in their decision-making**.**

At the end of the course, students will be able to
  i. Understand the fundamental concepts of Digital data and its types.
  ii. Identify the process of Business in IT
  iii. Analyze various data support for Business Analysis.
  iv. Determine the goal of Analytics in BI
  v. Utilize the data to Measure its Analytics using spreadsheet.

Unit 1:INTRODUCTION TO DATA   **15 Hrs.**
Introduction to Data-Types of Digital Data- Introduction to OLTP and OLAP- Different OLAP Architectures- Data Models for OLTP and OLAP- Data Quality- Data Profiling.

Unit 2: IT IN BUSINESS   **16 Hrs.**
Business view of Information Technology Applications: Core business process – Baldrige Business Excellence framework - Key purpose of using IT in business - Enterprise Applications - Information users and their Requirements**.**

Unit 3: BUSINESS ANALYSIS   **16 Hrs.**
Introduction to the Business Analysis**:** Business Analysis **-**Business Analyst - The evolving role of the Business Analyst -, Data for Business Analytics The basic rules of Business & Business Analysis - Classical Requirements and Tasks performed by Business Analysts.

Unit 4: BUSINESS INTELLIGENCE   **15 Hrs.**
Getting Started with Business Intelligence- Using Analytical Information for Decision Support- BI Definitions and Concepts- BI Users- Business Intelligence Applications- Popular BI Tools

Unit 5:ANALYTICS ON SPREAD SHEETS   **13 Hrs.**
Analytics on Spreadsheets: Excel Formulas, Excel Functions, Data Queries. Descriptive Analytics: Descriptive Statistical measures- Populations and samples, Statistical notations, Measures of Location, Measures of Dispersion, and Measures of Association

Textbooks
  1. R N Prasad, Seema Acharya," Fundamentals of Business Analytics", Wiley,2015.

  2. John Walkenbach, Michael Alexander, and Richard Kusleika, "Excel 2019 Bible", John Wiley & Sons, 2019.

References

1. James Evans, "Business Analytics" , Pearson edition, 2019.

2. Grossmann**,**Wilfried, Rinderle-Ma, Stefanie, "Fundamentals of Business Intelligence", Springer, 2015.

3. Mark Gardener, "Managing Data Using Excel: Organizing, Summarizing and Visualizing Scientific Data", Pelagic Publishing**,** 2015.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5			3			

Mean : 3.0

DSC 2503   **Data Structures**   **5Hrs / 5Cr.**

         The aim of this course is to understand the various data structure concept like Stack, Queue, linked list, Tree and Graph, their operations and apply them in real world problem.

At the end of the course, students will be able to
- i. Explain the concept of Data structure and algorithm
- ii. Analyze the various types of Linked list.
- iii. Analyze the various operations of Stack and Queue
- iv. Compare and contrast the various sorting and search
- v. Analyzing various graph algorithms.

Unit 1: Introduction   **14 Hrs.**
Data structures, classification of Data structure, Operations of data structure, Algorithm Time complexity, space Complexity.

Unit 2: Linked List   **16 Hrs.**
Introduction, Linked lists, Representation of linked lists in Memory, Traversing a linked list, Searching a linked list, insertion into linked list, Deletion from a linked list, Types of linked list doubly linked list and circular linked list.

Unit 3: Stack and Queue :   **15 Hrs.**
 Introduction, Array Representation of Stack, Linked List Representation of stack, Application of stack. Queue, Array Representation of Queue, Linked List Representation of Queue, Application of Queue.

Unit 4: Sorting and Searching   **16 Hrs.**
Searching and Sorting Techniques, Sorting Techniques: Bubble sort, Merge sort, Selection sort, Heap sort, Insertion Sort. Searching Techniques: Sequential Searching, Binary Searching.

Unit 5: Tree and Graph   **14 Hrs.**
Trees: Definitions and Concepts, Operations on Binary Trees, Representation of binary tree, binary search tree and tree traversal. Graph : Graphs: Matrix Representation of Graphs, List Structures, directed Graph, Breadth First Search, Depth First Search, Spanning Trees and Shortest-Path Algorithms

Textbook
1. Thomas H. Cormen, "Introduction to Algorithms ", MIT Press, 2017

References
1. Alfred V. Aho, John E. Hopcroft and Jeffrey D. Ullman, "Data Structures and Algorithms", Pearson Education, 2016.
2. Ellis Horowitz, Sartaj Sahni, Susan Anderson-Freed, "Fundamentals of Data Structures in C ", Second Edition, University Press, 2017.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1				4		
CO2			3			
CO3			3			
CO4				4		
CO5			3			

Mean : 3.4

DSC 2505   **R Programming**   **5 Hrs / 5Cr.**

The aim of this course is to provide a practical introduction to R programming language, the student will be comfortable operating in the R environment, including importing external data, manipulating data for specific needs, and running summary statistics and visualisations.

At the end of the course, students will be able to
  i. Explain the concept of R and data types
  ii. Understand the concepts of various data structure in R
  iii. Analyze the various control structures and function in R
  iv. Compare and contrast the various statistical concepts
  v. Analyzing various data visualisation graph in R

Unit 1: Introduction   **13 Hrs.**
Overview of R, Basic features of R, Design of R system , Limitation of R, R Resource, data types, operators and objects.

Unit 2: Data Preparation   **16 Hrs.**
File handling-Reading and writing data, importing and exporting data, manipulating, data, Data Structure – Vector, matrix , list , Data Frames, Factors, Date and time.

Unit 3: – Programming Structure   **16 Hrs.**
Control structures, functions, Loop functions , Scoping Rules of R, Coding Standard of R

Unit 4: Data Analysis   **15 Hrs.**
Statistical Concept -   T-Test in R , ANOVA- one way , Pearson, Spearman Correlation in R and Correlation Matrix, R Aggregate Function, R Select(), Filter(), Arrange(), Pipeline.

Unit 5: Data Visualisation   **15Hrs**
Data Visualisation in R using GGPlot ‑ Box Plot, Histograms, Scatter Plotter, Line chart, Bar Chart . Data Visualization using Plotly – 3D-view, Geo Maps, Null Handling, Merge, Grep, Scan-Packages.

Textbook :

1. Roger D. Peng, "R Programming for Data Science", Leanpub, 2015

References

1. Norman Matloff, "The Art of R Programming: A Tour of Statistical Software Design", No Starch Press, 2015
2. Jared P. Lander, "R for Everyone: Advanced Analytics and Graphics", Addison-Wesley Data & Analytics Series, 2013.
3. Mark Gardener, " , "Beginning R – The Statistical Programming Language", Wiley, 2013

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5			3			

Mean : 3.2

DSC 2407   **R Programming Lab**   **4 Hrs. / 4Cr.**

The aim of this course is to train the student to develop problem solving abilities and facilitate them to build the necessary skill set and analytical abilities for developing R based statistical applications.

At the end of the course, students will be able to
  i.   Construct programs using R Functions.
  ii. Create and Manipulating using vector and matrix.
  iii. Build programs using Data Frames, Factors.
  iv. Construct programs using Statistics method in R.
  v.   Develop simple graphics program in R.

Lab Components

1. Programs on data types in R
2. Built in functions in R
3. Creating and manipulating a vector
4. Creating and manipulating a matrix
5. Creating and operation on factor
6. Operations on Data Frames
7. Operations on list
8. Program on control structures
9. Importing Data from Excel.
10. Program using statistics method.
11. Data Manipulation.
12. Customizing and saving to graphics in R

Mapping Course Outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1				4		
CO2			3			
CO3				4		
CO4			3			
CO5						6

Mean = 4.0

DSC 2502   **ARTIFICIAL INTELLIGENCE**   **5 Hrs. / 5 Cr.**

The aim of this course is to enable the students to learn the basic principles, techniques and application of artificial intelligence. It explores the knowledge about the Search, Knowledge representation, inference, logic. In Competition of the course the student Becomes familiar with basic principles of AI toward problem solving.

At the end of the course, the student will able to
  i. Describe the basic concept of web Artificial Intelligence
  ii. Understand the Knowledge Representation methods
  iii. Apply the knowledge representation methods.
  iv. Analyze the suitable search strategy to solve the search problems
  v. Create an Artificial intelligence application.

Unit 1: Introduction   **15 Hrs.**
AI: The Problem- Assumptions- AI technique- Level of the model- Criteria for success- Problems: Problem Spaces and Search- Production Systems- Problem Characteristics- Reduction System Characteristics- Issue in the design of search programs.

Unit 2: Knowledge Representation   **15 Hrs.**
Knowledge Representation Issue: Representation and Mappings – Approaches, issue in Knowledge representation- Frame problem. Using Predicate Logic: Representation of simple facts in logic-Instance and ISA relationships.

Unit 3: Knowledge Representation Using rules   **15 Hrs.**
Representing knowledge using rules: Procedural versus declarative knowledge - logic Programming-Forward versus Backward reasoning-Matching Control Knowledge.

Unit 4: Uncertainty in AI   **15 Hrs.**
Symbolic Reasoning Under Uncertainty**:** Introduction to Non Monotonic Reasoning - Logic for Non Monotonic Reasoning- Implementation issues – Augmenting Problem Solver Implementation of DFS- Breadth–First search- Basics of Neural Network

Unit 5: Game Playing   **15Hrs.**
Overview-The minimum search problem-Adding alpha-beta cutoffs- Additional refinements –iterative Deepening

Textbook
1. Elaine Rich, Kevin Knight, Shivashankar B Nair, "Artificial Intelligence "**,** Tata McGraw Hill Ltd, Third edition, 2009.
Unit I : Chapters 1 ,2
Unit II : Chapter 4,5
Unit III : Chapter 6.
Unit IV : Chapter 7
Unit V : Chapter 12

References

1. Stuart J.Russell and Peter Norvig, "Artificial Intelligence: A Modern Approach",
Pearson Education, Second Edition, 2009.
2. Simon Haykin, "Neural Networks and learning Machines ", Prentice Hall, Third
Edition, 2008.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5			3			

Mean : 3.2

DSC 2504 **Data Mining and Warehousing** **5Hrs. / 5Cr.**

The aim of this course is to introduce the concepts of data ware house and data mining, which gives a complete description about the principles, uses, applications and basic techniques data mining concepts.

At the end of the course, students will be able to
- i. Understand the fundamental concepts of data and its Modeling
- ii. Determine the goal of data pre-processing.
- iii. Identify the Patterns of mining.
- iv. Analyse various clustering Techniques.
- v. Summarize data models to suitable problem and findings.

Unit 1: INTRODUCTION **10 Hrs.**
Introduction- Data Mining-Kinds of Data Can Be Mined-Pattern-Technology-Data Preprocessing-Applications and Issues in Data Mining.

Unit 2: DATA WAREHOUSING **16 Hrs.**
Data Pre-processing- Data Quality-Data Cleaning –Data Integration-Data Transformation. DataWarehousing and Online Analytical Processing-Basic concept-DataWarehouse Modeling-Data Cube Computation-Preliminary Concepts-Methods.

Unit 3: MINING and CLASSIFICATIONS **19 Hrs.**
Mining Frequent Patterns, Associations, and Correlations: Basic Concepts and Methods. Pattern Mining in Multilevel-Multidimensional Space. Classification-Basic Concepts-Decision Tree Induction-Bayes Classification Methods-Rule-Based Classification.

Unit 4: CLUSTER ANALYSIS **16 Hrs**.
Cluster Analysis-Basic Concepts – Partitioning Methods-Hierarchical Methods-Density-Based Methods-Evaluation of Clustering. Advanced Cluster Analysis-Clustering High-Dimensional Data-Clustering Graph and Network Data.

Unit 5:OUTLIER and DM APPLICATION **14 Hrs**
Outlier Detection-Outlier Analysis-Outlier Detection Methods- Clustering-Based Approaches- Classification-Based Approaches- Data Mining Trends- Mining Complex Data Types-Case study on Data Mining Applications.

Textbook

1. Jiwai Han and MichelineKamber , "Data Mining – Concepts and Techniques", Morgan Kaufmann Publishers ,3rd Edition ,2012.

References

1. Charu C. Aggarwal,"Data Mining ", Springer, 2015.
2. Tan, Steinbach, Kumar, "Introduction to Data Mining ", Pearson Education, 2014.
3. Arun K.Pujari," Data Mining Techniques" ,University Press, Third Edition, 2013.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1				4		
CO2			3			
CO3		2				
CO4			3			
CO5			3			

Mean : 3.0

DSC 2506   **PYTHON PROGRAMMING**   **5Hrs./5Cr.**

The aim of this course is to teach the essentials of Python and trains the students to develop applications in Python.

At the end of the course, students will be able to
  i.   Acquire the basic knowledge on the fundamentals of python.
  ii.   Understand Array, String and Functions concepts.
  iii. Write programs using List, Tuple and Dictionary.
  iv.   Learn to know, how to fix errors in the code and to read and write files in Python
  v.   Gain knowledge on OOPS in Python and develop simple programs.

Unit 1: Basic of Python Programming   **16 Hrs.**
Datatypes in Python: Built in datatypes – bool datatype – sequences – sets – literals – characters – user defined datatypes – constants – identifiers and reserved words – naming conventions. Operators in Python: Arithmetic – assignment – unary – relational – logical – Boolean – bitwise – membership – identity – operator precedence – mathematical functions. Input and Output: Output statements – input statements – command line arguments. Control statements-Arrays- Strings

Unit 2: Functions and Packages
Functions: Definition – calling a function – returning results and values – arguments – local and global variables – recursion. Packages- Basic packages- Machine learning Packages- Panda-Graphic packages.

Unit 3: List, Tuples and Dictionaries   **15Hrs.**
Lists: Creating List – updating the elements in lists – concatenation – repetition – membership –aliasing – finding biggest and common elements – sorting. Tuples: Creating tuples – accessing the tuples – function to process tuple – inserting, modifying and deleting elements in tuple. Dictionaries: Operation in dictionaries – Converting lists and strings into dictionaries – Passing dictionaries to functions.

Unit 4: Files and Exception   **15 Hrs.**
Files: Types – opening and closing a file – working with text and binary files – with statements – seek() and tell() methods. Exceptions: Errors in python program – exceptions – exception handling – types of exceptions – except block – assert statement – user defined exceptions.

Unit 5: Introduction to GUI   **13 Hrs.**
GUI: The Root window – Fonts and colors – Working with containers – canvas – frame – widgets – button – label – message – text scrollbar – check box – radio button – entry – spin box – list box – menu – creating tables

Textbook:
  1. Nageswara R. R., "Core Python Programming", Second Edition, Dreamtech Press, New Delhi, 2019.

References:
1. Balagurusamy, "Introduction to Computing & Problem Solving Using Python", Mc Graw Hill Education, 2016.
2. Allen Downey,Jeffrey Elkner, Chris Meyers , "How to think like a computer scientist : learning with Python", 2012

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3				4		
CO4						6
CO5				4		

Mean : 3.8

DSC 2408   **PYTHON PROGRAMMING LAB**   **4Hrs. /4Cr.**

The aim of this course is to train the student to develop problem solving abilities and facilitate them to build the necessary skill set and analytical abilities for developing Python based applications.

At the end of the course, students will be able to
   i.   Construct programs using Control and Loop statements in Python
   ii.   Understand Array, String and Functions concepts.
   iii.   Build programs using List, Tuple and Dictionary.
   iv.   Construct programs to fix errors in the code and to read and write files in Python.
   v.   Develop simple Python programs to demonstrate OOPs concepts.

Lab Components
   1. Write a Program for checking whether the given number is a even number or not.
   2. Implement python script to show the usage of various operators available in python language.
   3. Implement Python Script to check given number is palindrome or not.
   4. Implement Python Script to print sum of N natural numbers.
   5. Working with arrays in Python.
   6. Define a function max_of_three() that takes three numbers as arguments and returns the largest of them.
   7. Finding the sum and average of given numbers using lists.
   8. Classification of list of data.
   9. Clustering using imported data
   10. With a given tuple (1, 2, 3, 4, 5, 6, 7, 8, 9, 10), write a program to print the first half values in one line and the last half values in one line.
   11. Write a program to proceed Regression analysis..
   12. Write a python program by using exception handling mechanism.

Mapping Course Outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1				4		
CO2			3			
CO3				4		
CO4			3			
CO5						6

Mean = 4.0

DSC 122V   **Web Programming**   **2Hrs. / 2Cr.**

        The aim of this course is to develop web pages using Mark up languages. It also provides the Knowledge of web page designing and web programming. In completion of this course the student will be able to develop Dynamic Websites.

At the end of the course, students will be able to
- i.   Describe the basic concept of web languages.
- ii.   Understand the functional unit of HTML.
- iii.   Apply the various styles to web pages.
- iv.   Create web pages using Java Script
- v.   Create interactive web page using PHP .

Unit 1: INTRODUCTION TO   WEB LANGUAGES   6 Hrs.
Understanding How the Web Works:.-.-Understanding Web Page Languages: -Understanding the Language of Web Servers:- -Choosing a host for your website-Hosting for a company website.-Choosing a web-hosting company-Using a hosted website.-Setting Up Your Local Computer for Development..
Installing MySQL

Unit 2: INTRODUCTION TO HTML   6 Hrs.
Sections of an HTML Document-The root element-The head section and title element-The body section-Creating Good HTML- -Practicing Creating a Table.-Including Links and Images on Your Web Page-Adding links-Adding images-Writing Valid HTML-Validating Your HTML.

Unit 3: ADDING STYLE WITH CSS   6 Hrs.
Introduction-Connecting CSS to Page- Targeting Styles-Changing Fonts- Adding Borders-Changing List Styles- -Adding a Backgrouund- Creating Page Layouts -Adding Headers and Footers to a Page- Creating and Styling Web Forms **:**Using Web Forms to Get Information.-Creating a Form- Using CSS to Align Form Fields.

Unit 4: INTRODUCTION TO JAVA SCRIPT   6 Hrs.
Adding the JavaScript tag- Adding JavaScript to HTML pages- Using external JavaScrip-Getting Started with JavaScript Programming.- Testing Things with Conditionals.Performing Actions Multiple Times with Loops.- Functions - Objects in Brief.- Working with HTML Documents. Working with Web Browsers.

Unit V:-JQUERY   6Hrs
Adding jQuery: Introduction- Installing jQuery- Adding jQuery to a page - Working with HTML using jQuery

Textbook:

1. Steve Suehring, Janet Valade, "PHP, MySQL, JavaScript & HTML5 All-in-One for Dummies", John Wiley and Sons, Inc, Frist Edition, 2013.

References:
1. C.Xavier, "World Wide Web Design with HTML ", Tata McGraw-Hill Publishing Company Limited, 2015.
2. N.P. Gopalan and J. Akilandeswari, "Web Technology: A Developer's Perspective", PHI Learning Private Limited, Second Edition,v2014.

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3				4		
CO4				4		
CO5			3			

Mean : 3.2

DSC221V **Scripting Language using PHP** **2Hrs./2Cr.**

The aim of this course is to learn the basic concept of PHP and MYSQL and it also enables them to be familiar with the basics of Database management System.. In completion of this course the student will be able to create and maintain their own database application.

At the end of the course, the student will be able to:
  i. Recognize the basic Comments and its purpose.
  ii. Identify the database requirements and determine the entities involved in the system and their relationship to one another.
  iii. Understand function and commands and apply for programs.
  iv. Apply a different Build the database tables and make form, DML operations and functions.
  v. Create a Programs for creating client server applications

Unit 1: Introduction to Web design **7 Hrs.**
Introduction to Dynamic Web Content - HTTP and HTML: Berners-Lee's Basics - Request/Response Procedure - The Benefits of PHP, MySQL Setting Up a Development Server. - WAMP or LAMP - Installing XAMPP on Windows - Testing the Installation

Unit 2: Constants and variables **7 Hrs.**
Introduction to PHP - Incorporating PHP Within HTML - Structure of PHP - Comments - Basic Syntax - Variables - Operators - Variable Assignment - Multiple-Line Commands - Variable Typing - Constants - Predefined Constants - The Difference Between the echo and print Commands - Functions

Unit 3: Conditional and Control statements **5 Hrs.**
Expressions and Control Flow in PHP - Expressions and Control Flow in PHP - Expressions - Literals and Variables Operators - Conditionals the if Statement - The else Statement - The elseif Statement - The switch Statement - Looping - while Loops - do...while Loops - for Loops - Break, Continue Statement

Unit 4 : MySQL **5 Hrs.**
MySQLDatabase Design - Primary Keys: The Keys to Relational Databases - Normalization - First Normal Form - Second Normal Form - Third Normal Form Accessing MySQL Using PHP. Querying a MySQL Database with PHP The Process Creating a Login File Connecting to a MySQL Database A Practical Example The $_POST Array Deleting a Record

Unit 5: Database connectivity with PHP and MySql **6 Hrs.**
Displaying the Form Querying the Database Running the Program Practical MySQL - Creating a Table - Describing a Table - Dropping a Table - Adding Data - Retrieving Data - Updating Data - Deleting Data - Form Handling - Building Forms - Retrieving Submitted Data

Textbook

1. Robin Nixon, "Learning PHP, MySQL & JavaScript With jQuery, CSS & HTML5", O'Reilly Media, Inc., 2014.

References:

1. Richard Blum, "PHP, MySQL & JavaScript ALL-IN-ONE", John Wiley & Sons, Inc, 2018.
2. Pratiyush Guleria ,"PHP Beginner's Practical Guide", BPB Publications, 2018

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5				4		

Mean : 3.2

DSC 222V   OOA AND Design Pattern   2 Hrs. / 2 Cr.

The aim of this course is to build the basic blocks of UML and to design various modeling diagrams using UML. It covers the preparations of UML diagram for various real time applications .

At the end of the course, students will be able to
  i.   Express the fundamental concepts of Object Oriented Techniques in UML
  ii. Understand various static UML diagram.
  iii. Learn the Patterns of behavioural Modeling in UML.
  iv. Analyse More features in behavioural Modeling..
  v.   Gain knowledge on architectural modeling using UML.

Unit 1: OOAD AND UML DIAGRAMS   5 Hrs.
Introduction to Object Orientation– Usage of UML – Classification of UML diagram – UML Building Blocks–UML Modeling types.

Unit 2: STATIC UML DIAGRAMS   7 Hrs.
Class Diagram— Purpose of Class diagram-Class notation-Class Relation- Visibility of Class attributes and Operations-Class diagram for online shopping.Object Diagram-Purpose-Symbols and notations-Object diagram for Order management.

Unit 3: BASIC BEHAVIOURAL MODELING   7 Hrs.
Use case Diagrams: Purpose of Use Case diagram-Actors –Association-Use case Relationships- Bank transaction Use case Diagram. Interaction diagrams-Uses. Activity Diagrams-Uses-Student Enrolment Activity Diagram.

Unit 4: ADVANCED BEHAVIOURAL MODELING   6 Hrs
State machine Diagram- States and State Transitions-Types of States Transitions-Types of Events, state chart diagrams for Loan management.

Unit 5: ARCHITECTURAL MODELING   5 Hrs.
Component- Basic concept-Interface-Relationships-Hospital Management Component Diagram. Deployment Diagram-Uses-Notation-Client and server Deployment Diagram.Case Study on Library Management System.

Textbook
  1. Martina Seidl, MarionSchlz, Christian Huemer,Gerti Kappel, "UML @ Class room :An Introduction to Object oriented Modeling",Springer,2015

References
  1. Mahesh P Math, "Object-oriented Analysis And Design Using UML An Introduction To Unified Process And Design Patterns",PHI, 2010.
  2. Grady Booch, "Object-Oriented Analysis and Design with Applications " , Addison-Wesley, 2015.
  3. James Rumbaugh, Michael R, Blaha, "Object-Oriented Modeling and Design with UML", Pearson Education, 2016

Mapping of Course Outcomes with Bloom's Taxonomy

Bloom's Taxonomy	K1: Remembering	K2: Understanding	K3: Applying	K4: Analyzing	K5: Evaluating	K6: Creating
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5			3			

Mean : 3.0

DEPARTMENT OF
BACHELOR OF BUSINESS ADMINISTRATION

Value-Added Courses
w.e.f 2020-2021

SEMESTER	COURSE NO.	COURSE TITLE	HOURS / WEEK	Credit
I	BBA 121V	Basic Computer Skills for Executives	2	2
II	BBA 221V	Event Management Skills	2	2
III	BBA 321V	Soft Skills for Managers	2	2
IV	BBA 122V	**Written Communication**	2	2
V	BBA 222V	**Basics of Stock Market**	2	2
VI	BBA 322V	**Professional Ethics**	2	2

BBA 122V	Communicative Writing 2Hrs/2Cr
Course Objective	To familiarize learners with the mechanics of writing and to enable them to write in English precisely and effectively.

Course Outcomes	On completion of the course, students should be able to

	i	Get into the habit of writing regularly,
	ii	Express themselves in different genres of writing from creative to critical and factual writing.
	iii	Take part in print and online media communication,
	iv	Read quite widely to acquire a style of writing.
	v	Identify their areas of strengths and weaknesses in writing.

Unit	Content
I **(6 Hrs)**	**Personal Communication:** Journal writing - Mails/emails – SMS - Greeting cards -Situation based – Accepting/declining invitations – Congratulating –Consoling - Conveying information.
II **(6 Hrs)**	**Social Communication:** Blogs - Reviews (films, books) - Posting comments – Tweets -Cross-cultural communication - Gender sensitivity in communication.
III **(6 Hrs)**	**Work Place Communication:**E-mails – Minutes -Reports of different kinds – Annual report - Status report - Survey report - Presentations – Interviews - Profile of institutions – Speeches - Responding to enquiries - Complaints – Resumes – Applications – Summarizing - Strategies for writing.
IV **(6 Hrs)**	**Research Writing:** Articles for publication (Journals) - Developing questionnaire - Writing abstract – Dissertation - Qualities of research writing - Data (charts, tables) analysis - Documentation.
V **(6 Hrs)**	**Writing for Media and Creative Writing**: Features for publication (Newspapers, magazines, newsletters, notice-board) - Case studies - Short stories – Travelogues - Writing for children – Translation - Techniques of writing.

Text Books:	1.	Raymond V Lesikar, John D Pettit, and Mary E Flatly. 2009. Lesikar's Basic Business Communication. 11th ed. Tata McGraw-Hill, New Delhi.
Reference Books:	1.	Sharan J Gerson, and Steven M Gerson. 2008. Technical Writing: Process and Product. Pearson Education, New Delhi.
	2.	E. H. McGrath, S.J. 2012. Basic Managerial Skills for All. 9th ed. Prentice-Hall of India, New Delhi
	3.	Management books Robin sharma - The greatness guide Steven Covey - 7 Habits of Effective people Arindham Chaudhuri - Count your chickens before they hatch Ramadurai - TCS Story Blogs : Seth Godwin, Guy Kawasaki, Kiruba Shankar Review: Harvard Business review Reports: Deloitte, Netsis Magazines: Bloomberg Businessweek, Economist

Course Outcomes	Program Specific outcome PSOs									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1			X				X			
CO2					X					
CO3	X								X	
CO4						X				
CO5		X								X

Revised Bloom's Taxonomy	Course Outcomes				
	CO1	CO2	CO3	CO4	CO5
K1: Remembering	1				
K2: Understanding			2		
K3: Applying				3	
K4: Analyzing		4			4
K5: Evaluating				5	
K6: Creating	6				

Mean = 4.6

BBA 222V	Basics of Stock Market	2Hrs / 2Cr
Course Objective	Students will get a basic knowledge on stocks and to learn practical applications of how to invest in share market.	
Course Outcomes	At the end of the course the student will be able to	
	i	Understand the concept of Share and Stock market
	ii	Study in detail about the concepts of Index and Sectoral Indices
	iii	Practice the habit of investing through various trading methods and understand the software used in online trading.
	iv	Invest through stock brokers and recognize the concept of Demat and Trading account.
	v	Familiarize with various contract options and understand the reasons for loss and profit.
Unit	**Content**	
I (6 Hrs)	**Share or Stock:** Introduction – After buying shares, How do we Profit? - After buying shares, why do we suffer loss – Share Market- NSE and BSE – Stock Broker**.**	
II (6 Hrs)	**Index and Sector Index:** Nifty Index – Sensex Index – Importance of Nifty& Sensex - Index – Sector – Sector Index – Name of Sectoral Indices – Importance of Net change in Index and Sector Index.	
III (6 Hrs)	**Intraday Trading:** Characteristic of Intraday Trading - Investor – Positional Trader – Intraday Trader – Trading Software – Buyer and Seller – Volume – Low Volume Stock – High Volume Stock.	
IV (6 Hrs)	**Stock Brokers:** Full-Service Broker – Bank Based Stock Broker – Discount Broker – Demat and Trading Account – Information – Deposit Money in Demat Account – Withdraw Money from Demat Account.	
V (6 Hrs)	**Future Contract:** Features – Benefits of Future Contract – Option Contract – Call option Contract – Put option Contract.	

Text Book:	A to Z Share Market (Intraday Trading), Gautam Kumar – Notion Press Publisher (2019).
Reference Books:	1. Financial Markets and Services, E.Gordon and K. Natarajan- Himalaya Publishing House, (2018).
	2. Stock Exchanges, Investments and Derivatives,V. Raghunathan-McGraw-Hill Education (India) (2008)

Course Outcomes	Program Specific outcome PSOs									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1			X				X			
CO2					X					
CO3	X								X	
CO4						X				
CO5		X								X

Revised Bloom's Taxonomy	Course Outcomes				
	CO1	CO2	CO3	CO4	CO5
K1: Remembering	1				
K2: Understanding			2		
K3: Applying					
K4: Analyzing		4			4
K5: Evaluating				5	
K6: Creating					

Mean = 3.2

BBA 322V	Professional Ethics	2Hrs / 2Cr
Course Objective	The basic objective of this course is to make the students to understand the importance of Values and Ethics in their Personal lives and professional careers.	
Course Outcomes	At the end of the course the student will be able to	
	i	Distinguish among morals, values, ethics, and to explore how they impact professional practice.
	ii	Realize the importance of Values & Ethics in Business.
	iii	Appreciate ethical dilemma while discharging duties in professional life
	iv	Learn the skills of ethical decision-making and apply those skills to the real and current challenges of the professions.
	v	Regulate their behavior in a professional environment as employees and know various means of protesting against unethical practices.

Unit	Content
I (6Hrs)	**Concepts and Theories of Ethics:** Definitions of Ethics - Personal ethics - Morality and law - How are moral standards formed? - Etiquette and Professional codes - Indian Ethical Traditions.
II (6 Hrs)	**Business Ethics:** Principles of Personal andProfessional ethics, Evolution of Ethics Over the years - Honesty, Integrity, Loyalty, Respect and Transparency - Distinction Between Values and Ethics - Roots of unethical Behaviour.
III (6 Hrs)	**Ethical Dilemmas and their Resolutions:** What is an Ethical Dilemma? - Sources of Ethical Behaviour - Code of Personal Ethics for Employees - How to Resolve an Ethical Problem? - How to Resolve Ethical Dilemmas?
IV (6Hrs)	**Ethical Decision-Making:** Ethical Models that Guide Decision making -Ethical Decision Making with Cross –Making - Influences on Ethical Decision Making - Personal values and Ethical Decision Making.
V (6Hrs)	**Moral Autonomy:** Moral Philosophies and values – Applying Moral Philosophy to Ethical Decision - Kohlberg's Model of Cognitive Moral Development - White Collar Crime - Whistle blowing.
Text Book:	V. Jayakumar, Professional Ethics and Human Values, 5th Edition, Lakshmi Publications, Chennai.

Reference Books:	1.	Jayasree Suresh and B. S. Raghavan, Human Values and Professional Ethics, 3rd Edition, S. Chand Publications
	2.	Manuel G Velasquez, Business Ethics concepts & Cases, 6e, PHI, 2008
	3.	John R Boatright, "Ethics and the Conduct of Business", Pearson Education, New Delhi, 2003.

Course Outcomes	Program Specific outcome PSOs									
	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1				X			X			
CO2			X							
CO3			X						X	
CO4	X									
CO5		X								

Revised Bloom's Taxonomy	Course Outcomes				
	CO1	CO2	CO3	CO4	CO5
K1: Remembering	1				
K2: Understanding		2			
K3: Applying			3		
K4: Analyzing		4			4
K5: Evaluating				5	
K6: Creating					

Mean = 3.4

DEPARTMENT OF BIOCHEMISTRY
B.Sc. Biochemistry UG Programme

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
I	I		TAM XXXX	TAS/FRS/HIS	3	2	60
	II		ENG XXXX	English	3	2	60
	III	Core	BCH 1451	Fundamentals of Biochemistry	4	4	100
			BCH 1553	Biomolecules	5	5	100
			BCH 1455	Biomolecules Lab	4	4	100
		Supportive	BCH 1357	Biochemistry – I	3	3	100
			BCH 1159	Biochemistry – I Lab	2	1	60
	IV	Non-Major Elective -1	BCH 1261	Wonders of Human Body	3	2	60
		Life skill-1	BCH 1263	Food Technology	3	2	60
	V	NSS/PED/SLP		Extension activity	-	-	-
				Total	**30**	**25**	**700**

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
II	I		TAM XXXX	TAS/FRS/HIS	3	2	60
	II		ENG XXXX	English	3	2	60
	III	Core	BCH 1452	Cell Biology & Genetics	4	4	100
			BCH 1554	Human Physiology	5	5	100
			BCH 1456	Cell Biology, Genetics & Human Physiology Lab	4	4	100
		Supportive	BCH 1358	Biochemistry – II	3	3	100
			BCH 1160	Biochemistry – II Lab	2	1	60
	IV	Non-Major Elective -2	BCH 1262	Nutrition and Health	3	2	60
		Life skill-2	BCH 1264	Emergency Care	3	2	60
	V	NSS/PEDSLP		Extension activity	-	-	-
				Total	**30**	**25**	**700**

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
III	I		TAS XXXX	TAS/FRS/HIS	3	2	60
	II		ENS XXXX	English	3	2	60
	III	Core	**BCH 2651**	**Metabolism**	**6**	**6**	**100**
			BCH 2653	**Enzymology**	**6**	**6**	**100**
			BCH 2355	**Nutrition & Dietetics**	**3**	**3**	**100**
			BCH 2457	**Metabolism, Enzymology &Nutrition Lab**	**4**	**4**	**100**
		Supportive	**BCH 2459**	**Microbiology**	**5**	**4**	**100**
	V	NSS/PED/SLP		Extension	-	-	-
				Total	**30**	**27**	**620**

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
IV	I		TAS XXXX	TAS/FRS/HIS	3	2	60
	II		ENS XXXX	English	3	2	60
	III	Core	**BCH 2652**	**Immunology**	**6**	**6**	**100**
			BCH 2654	**Clinical Biochemistry**	**6**	**6**	**100**
			BCH 2356	**Cancer Biology**	**3**	**3**	**100**
			BCH 2458	**Immunology & Clinical Biochemistry Lab**	**4**	**4**	**100**
		Supportive	MAS2454	Biostatistics	5	4	100
	V	NSS/PED/SLP		Extension	-	-	-
				Total	**30**	**27**	**620**

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
V	III	Core	BCH 3651	Molecular Biology & Genetic Engineering	6	6	100
			BCH 3653	Analytical Techniques	6	6	100
			BCH 3655	Pharmacology & Toxicology	6	6	100
			BCH 3557	Molecular Biology &AnalyticalTechniques Lab	5	5	100
	IV	Life skill-3	BCH 3259	Forensic Biology	3	2	60
		EVS	BCH 3261	Environmental Studies	4	2	60
				Total	**30**	**27**	**520**

Sem	Part		Course No.	Course Title	Hr/wk	Credit	Marks
VI	III	Core	BCH 3652	Plant Biochemistry	6	6	100
			BCH 3654	Protein Chemistry	6	6	100
			BCH 3656	Endocrinology	6	6	100
			BCH 3558	Plant Biochemistry, Protein Chemistry and Endocrinology Lab	5	5	100
	IV	Life skill-4	BCH 3260	Waste Management	3	2	60
		VAL	VALXXXX		4	2	60
				Total	**30**	**27**	**520**
				Grand Total			

Value added Courses
w.e.f 2020-2021

Sem	Course No.	Course Title	Hr/wk	Credit	Target Department
I	BCH 121V	Biomembranes	2	2	Biochemistry
	BCH 122V	Human anatomy	2	2	
II	BCH 221V	Enzyme Application	2	2	
	BCH 222V	**Diet Therapeutics**	**2**	**2**	
III	**BCH321V**	**Diagnostic Techniques**	**2**	**2**	
	BCH322V	**Herbal Medicines**	**2**	**2**	
		Total	**12**	**12**	

Programme Outcomes (POs) for Undergraduates

Undergraduate programmes are expected to have developed in undergraduates the following graduate attributes:

1. *Cognitive Ability*: Capacity to register, remember and recall ideas and add knowledge in the relevant discipline.

2. *Reflective Skills*: Ability to apply knowledge and solve problems in similar but unknown disciplinary contexts.

3. *Communicative Competence*: Ability to communicate in one's mother tongue and in English discipline-specific complex ideas and life experiences.

4. *Aptitude for Higher Studies*: To be proactive in demonstrating general aptitude to evaluate the circumstances and come up with an interest to progress further in career by opting for post studies or through entrepreneurial initiatives at offing in the multidisciplinary and trans-disciplinary contexts.

5. *Employability Capacity*: Ability to serve the nation as school teachers, responsible staff and officers in various private and public sectors to find suitable meaning for the education they have pursued here.

6. *Action Research Aptitude*: Skills to undertake action research as independent projects on the themes and issues concerning life and work moving ahead with techno-savvy and eco-friendly approaches.

7. *Quest for Lifelong Learning*: Skills to learn lifelong independent of academia transcending the space and time barriers.

8. *Study Abroad*: Ability to pursue higher studies in a global context of multilingual, multicultural, multiethnic and multiracial communities without compromising the values and ethos cherished and nurtured in love with the motherland.

9. *Citizenry Attributes*: Be responsible citizens with democratic bent of mind, probity in public life, moral uprightness, and commitment for social uplift of the marginalised, the poor, the destitute, and the needy.

10. *Civic Responsibility*: Capacity to respect human values, to exhibit religious tolerance, and to practise politics of difference and dissent.

Programme Specific Outcome

After the completion of the course, the graduates will be able to:

1. Discuss the structure of biomolecules and their interactions in the essential pathways in cell for the growth and energy production.

2. Outline the anatomy and analyze the physiological functions of organs, their importance and the role of hormones in regulation.

3. Apply the knowledge of the basic cell structure, interactions, signaling its molecular expression and regulation in the sustenance of human life.

4. Demonstrate the importance of diet, its sources, deficiency and values of nutrition

5. Identify the working principle of instruments involved in analysis of biomolecules and formulate the techniques to be used in line with the advanced laboratory automation.

6. Communicate the knowledge of the defense mechanisms against infectious diseases, clinical manifestations and management.

7. Demonstrate the knowledge of drug, its action and the adverse effects of drugs on human body system.

8. Compile the physiology, biochemical events in plants and the importance of secondary metabolites in drug formulation.

9. Explain relationship between different components in ecosystem and effect of environmental degradation on human life.

10.   Identify the metabolic disorders, clinical manifestation of diseases, diagnostic tools and the application of stem cells.

Mapping of Programme Outcomes (POs) with Programme Specific Outcomes (PSOs)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
PSO 1	X	X		x	x	x				
PSO 2	X	X		x	x	x				
PSO 3	X	X		x	x	x	x			
PSO 4	X	X		x	x	x	x		x	
PSO 5	X	X		x	x	x		x		
PSO 6	X	X	x		x		x		x	
PSO 7	X	X	x	x			x		x	
PSO 8	X	X		x		x		x	x	
PSO 9	X	X	x		x	x			x	
PSO 10	X	X		x		x		x	x	

Mapping of Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

I YEAR

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
BCH 1451	x	x	x		x			x		x
BCH 1553	x		x	x	x			x		x
BCH 1455	x		x		x			x		
BCH 1357	x	x	x	x	x					x
BCH 1159	x	x		x	x			x		x
BCH 1261	x	x	x	x			x			
BCH 1263	x			x	x			x	x	
BCH 1452	x	x	x					x	x	x
BCH 1554	x	x	x		x	x	x			
BCH 1456	x	x	x		x	x		x		x
BCH 1358	x	x		x			x		x	x
BCH 1160	x			x	x	x			x	x
BCH 1262		x		x		x			x	x
BCH 1264		x			x	x			x	x

BCH 2651   **METABOLISM**   **6 Hrs/6Cr**

The course intends to introduce the students to the metabolic pathways and energetics. A deeper insight into the various metabolic pathways of biomolecules and their inter relations and the factors involved in the regulations of these pathways will be gained.

At the end of the course, students will be able to:

i. Outline the breakdown of macromolecules and the importance of mitochondria in the energy production.
ii. Compare and evaluate the sequence of reactions, energetics and regulation of the different pathways of carbohydrate metabolism.
iii. Analyze the high energy yielding lipid, their metabolism, importance and regulation.
iv. Discuss the metabolism of amino acids and the production of free radicals and importance of antioxidants in humans.
v. Compute the knowledge on the biosynthesis, breakdown of nucleic acids and the significance of heme metabolism.

Unit I – Overview of Metabolism and Bioenergetics   **17 Hrs**
Definition – stages – types – overview of digestion and absorption of carbohydrate, lipids and proteins – low energy and high energy compounds – electron transport chain – oxidative and substrate level phosphorylation – importance of mitochondria and ATP synthesis

Unit II – Carbohydrate Metabolism   **22 Hrs**
Introduction, sequence, reactions, energetic**s** and regulation – glycolysis, Pyruvate dehydrogenase complex, Kreb's cycle, Cori's cycle, gluconeogenesis, glycogen metabolism, HMP shunt pathway, fructose and galactose metabolism.

Unit III –Lipid Metabolism   **21 Hrs**
Introduction, sequence, reactions and regulation – saturates and unsaturated fatty acids – biosynthesis of fatty acids – oxidation of even chain and odd chain fatty acids –biosynthesis of cholesterol – synthesis of compound lipids – functions of lipoproteins – synthesis of phospholipids, triglycerides – metabolism of ketone bodies.

Unit IV – Amino acid Metabolism   **19 Hrs**
Introduction – biosynthesis and catabolism of amino acids – tyrosine, tryptophan, phenyl alanine, cysteine, glutamic acid, histidine – one carbon metabolism - SAM - formation and disposal of ammonia – urea cycle - Glutathione reductase, Super oxide dismutase, Hydrogen peroxidase.Integration of carbohydrate, lipid and protein metabolism.

Unit V – Nucleotide Metabolism   **15 Hrs**
Purines and pyrimidines – sources of the atoms – De novo biosynthesis – salvage pathways – degradation and regulation – biosynthesis and breakdown of heme – porphyrin – types.

References:
1. Satyanarayana U (2013), Biochemistry 4th edition. Book and Allied (P) Ltd. Kolkata. ISBN: 978-81-312-3601-7.
2. LubertStryer (2019), Biochemistry, 9th edition, W. H. Freeman and Company, New York. ISBN:9781319234362
3. Christopher K. Mathews, K.E. Van Hole, Kevin G. Ahern (2003), Biochemistry 3rd edition. Pearson Education, Singapore.
4. Robert K. Murray, Robert K. Murray, Peter A. Mayes, Victor W. Rodwell (2018), Harper's Illustrated Biochemistry, 31st edition.Lange Medical Books/McGraw-Hill medical publications division. New Delhi,ISBN13 9781259837937.
5. Donald Voet& Judith G. Voet (2018), Principles of Biochemistry 5th edition. Global edition. New York. ISBN: 978-1-119-45513-4.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1			3			
CO2			3			
CO3				4		
CO4		2				
CO5				4		

Mean: 3.2

BCH 2653   **ENZYMOLOGY**   **6 Hrs/ 6Cr**

The objective of the course is to highlight the importance of enzymes and its mechanism in life process. Special emphasis is given to mechanism of enzyme action and biosensors playing a role in vital conditions. The impact of immobilized enzymes and methods of immobilization is dealt to expound the student's knowledge towards recent advancements. It will highlight the students the applications of enzymes in various fields of biology.

At the end of the course, students will be able to:

i. Explain the basic concepts, classification, nomenclature and purification methods of enzymes.
ii. Discuss the structure, functions and the mechanism of action of enzymes and their kinetics.
iii. Assess the role of activators and inhibitors on the activity of enzymes and their impact on Vmax& Km.
iv. Compile the role of coenzymes and the effect of various parameters on the activity of enzymes.
v. Analyze the knowledge of immobilization and applications of enzymes in food, medicine, industries, genetics and their future potential.

Unit I – Fundamentals of Enzymology   **19Hrs**
History of Enzymology, advantages of enzymes over chemical catalysts – nomenclature - classification – general characterization – functions – enzyme isolation – purification methods - estimation of enzyme activity, enzyme units, need for enzyme purification.

Unit II – Enzyme Catalysis   **20Hrs**
Active site, isoenzymes, substrate, product, holoenzyme, apoenzyme, cofactor, coenzyme, prosthetic group, ribozymes and abzymes, monomeric and oligomeric enzymes, multienzyme complex - enzyme specificity, enzyme catalysis – metal ion catalysis, covalent catalysis - regulatory enzymes – covalent modification, allosteric enzymes.

Unit III - Enzyme kinetics   **16Hrs**
Enzyme kinetics, introduction to Chemical kinetics, enzyme catalyzed reaction, Michaeli's - Menten equation, Vmax, Km and its significance, LB plot, Eadie – Hofstee plot, Hanes–Woolf plot factors affecting enzyme activity, turn over number.

Unit IV - Mechanism of action   **18Hrs**
Mechanism of action – lysozyme, chymotrypsin, ribonuclease, carboxypeptidase - enzyme inhibition – types – competitive, uncompetitive, noncompetitive, mixed, feedback – biosensors – glucose oxidase, cholesterol oxidase, urease and antibodies.

Unit V- Immobilized enzymes and Applications   **17Hrs**
Immobilized enzymes – methods of immobilization – Ionic bonding, adsorption, covalent bonding, microencapsulation and Gel entrapment
Applications of Enzymes in medicine, textile, leather, detergent, paper, dairy industry, beverage industry, food processing and clinical diagnosis.

References:
1. Dr. P. Asokan (2003), Enzymes, 1st edition Chinnaa Publications, Vellore.
2. Trevor Palmer (2008), Enzymes – Biochemistry, Biotechnology & Clinical Biochemistry, Affiliated East – West Press Pvt. Ltd, New Delhi. ISBN 13: 9788176710596.
3. Dixon, M., and Webb, E. C. (1979) Enzymes, 3rd edition, Longmans, Green & Co., London, and Academic Press, New York. ISBN 13: 9780582462175.
4. Nicolas C Price and Lewis Stevens (1999), Fundamentals of Enzymology, Oxford University Press, New York.ISBN-13 : 978-0198064398.
5. David L. Nelson, Michael M. Cox, (2017), Lehninger Principles of Biochemistry, 7th edition, W. H. Freeman & Company, New York. ISBN: 9781464126116.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2				4		
CO3					5	
CO4			3			
CO5				4		

Mean: 3.6

BCH 2355   **NUTRITION & DIETETICS**   **3Hrs/3Cr**

This course will foster understanding on the basis of nutrition and the effects of varied nutrition and diet on health. The student will be able to evaluate the nutritional status through various food parameters. The allergic effects of specific foods will be elaborated along with awareness on future functional food and nutritional supplements. Inculcating healthy lifestyle and ethical principles in nutrition will be emphasized.

At the end of the course, students will be able to:

    i.   Demonstrate the food as a source of nutrients and importance of balanced diet.
    ii.   Compile the calorific value of foods and the role of protein and lipid in foods.
    iii.   Outline the nutritional requirements in various stages of life for men and women
    iv.   Discuss the food allergens and apply the knowledge of nutrition in disease management
    v.   Identify the nutritional assessment methods of the national and international organizations.

Unit I - Introduction to Nutrition   **9 Hrs**
Definition of nutrition - Food as source of nutrients - classification and function- analysis of food composition – food groups, food habits – BMR – measurement – factors affecting BMR- balanced diet – malnutrition – under nutrition – water and electrolyte balance

Unit II – Nutritive value of foods   **9 Hrs**
Calorific value of foods - requirements -nutritional aspects – Bomb calorimeter - protein factors - quality of proteins - classification - protein deficiency – PEM – role of lipids - vitamin – minerals- dietary fibers in diet – nutritive value of common foods - milk - egg – meat - fish – pulses – legumes - coconut – green leafy vegetables

Unit III – Nutritional requirement   **10 Hrs**
Nutrition at various stages of growth and development – infants – children – adolescent – pregnant women – lactating mother - aged people- Energy requirements of men and women - factors affecting energy requirements.

Unit IV – Disease Management and Food Allergy   **8 Hrs**
Role of diet & nutrition in prevention & management of diseases: Diabetes mellitus, hypertension, ulcer, anemia, dental caries, myocardial infarction & rheumatic disorders. Food allergy- definition – allergen- classification – types – pea nuts, brinjal, fish, snake guard, yam, wheat – specific and multiple food allergies- food sensitive enteropathy.

Unit V – Nutritional Assessment   **9 Hrs**
Definition – RDA – NCEP - methods of assessments – clinical, biophysical, biochemical – National and International organization – WHO, ICMR, WFP, FAO, PAHO – recommendation

References:

1. Peggy S. Stanfield, MS, (2010), Nutrition and Diet Therapy Self-Instructional Approaches 5th Edition ,Jones and Bartlett Publishers Canada, ISBN-13: 978-0-7637-6137-0.
2. Swaminathan. M (2014), Advanced Textbook on Food and Nutrition, 2nd edition, volume 2, The Bangalore Printing and Publishing Company, Bangalore.
3. Gupta L.C, Kusum Gupta, (2006), Food and Nutrition – Facts and figures, 6th edition, Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi. ISBN: 81- 8061- 571-5
4. Srilakshmi. B, (2001), Dietetics, 3rd edition, New Age International Pvt. Ltd. Publishers, New Delhi. ISBN: 81- 224- 1252- 1
5. Anderson, L.,(1982) Nutrition in health and disease, 17th ed. Lippincott Co. Philadelphia ISBN: 9780397542826

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2					5	
CO3				4		
CO4		2				
CO5			3			

Mean:3.4

BCH 2457   Metabolism, Enzymology and Nutritional Biochemistry Lab   4 Hrs/4Cr

The laboratory course aims to provide practical knowledge on the activity of important enzymes and their effect on different parameters. This course also gives a practical knowledge and hands on experience in cellular studies and the diverse metabolic products present in fruits.

At the end of the course, students will be able to:

  i.   Analyze the activity of enzymes of clinical importance
  ii. Employ the standard methods for estimation of amino acids, iron, ascorbic acid, phenolic
  iii. compounds and inorganic phosphate from natural sources.
  iv. Asses the BMI and its importance.
  v.   Demonstrate the assay technique of vitamin A.
  vi. Demonstrate the titration curve of amino acids and the pKa value.

Experiments

1. Titration curve of glycine and determination of pKa value.
2. Estimation of amino acid by Ninhydrin method.
3. Estimation of inorganic phosphate – Fiske Subbarow method.
4. Estimation of ash content, moisture content and fibre content.
5. Assay of Salivary amylase activity.
6. Assay of Urease activity.
7. Assay of Catalase activity.
8. Determination of SGOT/SGPT activity.
9. Study of effect of pH on enzyme activity.
10. Study of effect of temperature on enzyme activity.
11. Estimation of iron from apple juice by phenanthrone method.
12. Estimation of ascorbic acid by 2,4-dichlorophenol indophenol method.
13. Estimation of phenolic compounds from fruits.
14. Calculation of BMI
15. Assay of vitamin A – Spectrophotometric method.

References:
1. Jayaraman J. – Laboratory Manual in Biochemistry (2011). 5th edition. New Age International Publishers P Ltd., New Delhi. ISBN: 978-8122430493.
2. Sadasivam S, Manickam A – Biochemical Methods (1996). Revised 2nd edition. New Age International Publishers, P Ltd. New Delhi. ISBN: 81-224-0976-8.
3. Keith Wilson and John Walker (editors) – Principles and Techniques of Biochemistry and Molecular Biology (2010) 7th edition, Cambridge University Press.ISBN978-0-521-51635 -8.
4. David T Plummer – An introduction to practical Biochemistry. (1988) 3rd edition. Tata McGraw Hill Publishing Company Limited. ISBN:978-0-07-099487-4.
5. Harold Varley. Practical Clinical Biochemistry (2006) 6thedition.CBS Publishers. New Delhi.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1				4		
CO2			3			
CO3					5	
CO4			3			
CO5				4		

Mean: 3.8

BCH 2459   **MICROBIOLOGY**   **5Hrs/4Cr**
(Supportive)

The objective of the course is to provide with an understanding of the basic concepts of general microbiology. The students will be introduced to microbial diversity, classification, structure, nutrition, growth and reproduction of bacteria and viruses. Special emphasis is given to the role of microbes in industries and food spoilage.

At the end of the course, students will be able to:
   i.   Discuss the most important discoveries and inventions for the development of microbiological applications.
   ii. Explain the classification, structure, morphology and life cycle of microorganisms.
   iii. Interpret the diversity in the microbial flora and the factors that limit microbial growth.
   iv. Explain the microbial resistance development and control mechanisms followed in disease management.
   v.   Apply the knowledge of microorganism in food spoilage and industrial fermentation.

Unit I - History & Development of Microbiology   15 Hrs
Development of microbiology, distribution of microorganisms, important discoveries, theories of spontaneous generation and germ theory of disease - Louis Pasteur& Robert Koch. Differential characteristics of prokaryotic and eukaryotic microorganism. Principle of nomenclature, three and five-kingdom concepts, classification of bacteria, viruses, fungi and protozoa.

Unit II – General Bacteriology& Virology   18 Hrs
Bacteria - General properties, ultra structure, morphology and cellular appendages, staining techniques- nutrition – growth curve & growth kinetics. Isolation & pure culture technique, biochemical tests of bacteria - culture preservation methods.

Virus - History & Development of virology – General structure – Morphology - classification , viral genetics – Replication- Cultivation - detection - plaque assay, haemagglutination test, neutralization test.

Unit III – Introduction to Mycology & Parasitology   15 Hrs
Fungi - Origin, morphology, and medical classification of fungi. Techniques of isolation, morphological identification, culture, and enumeration of yeast and mold.

Parasites - Origin, morphology and classification of parasites - blood, tissue, intestinal parasites, soil-transmitted helminths, and nematodes, techniques of detection, enumeration and identification of protozoan and helminthic parasites.

Unit IV – Techniques in control of microorganisms   12 Hrs
Principles, procedures and applications of disinfection and sterilization-temperature, irradiation, ultrasonication, filtration, chemicals, infectious disease management - antibiotics, and chemotherapeutic agents – immunoprophylaxis – animal and human ethics in microbiological

work – automation in microbiology – biological standardization – quality control – Role of ICMR – WHO.

Unit V – Food & Industrial Microbiology   **16 Hrs**
Food spoilage – food borne infection - Salmonellosis and Shigellosis. Canned foods - Food intoxication - Botulism and Staphylococcus poisoning, food preservation - Microbiological production of fermented foods – bread, cheese, yogurt. Biochemical activities of microbes in milk.Microorganisms as food – SCP, edible mushrooms - Concept of probiotics.
Microorganisms of industrial importance – yeasts, moulds, bacteria, actinomycetes. Uses of microbes in industries – Types of fermentation- ethanol production – organic acid production – Antibiotic production.

References:
1. Murray, Rosenthal, and P Faller (2005), Medical Microbiology, 5th edition, Elsevier-Mosby, USA, ISBN: 0-323-03303-2.
2. Green-wood, Slack, and Peutherer (2002), Medical Microbiology - A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Diagnosis, and Control, 16th edition Churchill Livingstone, ISBN: 0443-07077-6.
3. Crueger, W. and Crueger, A. (2000). Biotechnology – A Text Book of Industrial Microbiology, Panima Publishing Corporation, New Delhi. ISBN 0-87893-131-7.
4. Reddy, S.R. and SingaraCharya, M.A. (2007). A Text Book of Microbiology - Applied Microbiology. Himalaya Publishing House, Mumbai.
5. Lansing M. Prescott (1996), Microbiology, 3rd Edition, William. C. Brown Publishers, USA, ISBN: 0-697-29390.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1						
CO2		2			5	
CO3			3			
CO4				4		
CO5		2				

Mean : 3.4

BCH 2652 **IMMUNOLOGY** **6Hrs/6Cr**

This course deals with cells and organs of immune system, antigen, and antibody structure and diversity of antigen antibody interactions. It's also includes major histocompatibility complexes, and complement, clinical aspects such as hypersensitivity, autoimmunity disorders of immune response, transfusion and transplantation.

At the end of the course, students will be able to:

i. Demonstrate the basic concepts of immunity, cells and organs of immune system.
ii. Outline the types, structure, functions of antibody and various antigen antibody interactions.
iii. Discuss the action of major histocompatibility complex and activation of complement system.
iv. Explain the concepts of autoimmunity and the associated disorders.
v. Discuss the components and mechanism of different types of hypersensitivity and their consequences.

Unit I – Fundamentals of Immune System **20Hrs**
Definition - cells of immune system - lymphoid cells - T and B cells – mononuclear cells- granulocytes – mast cells – dendritic cells - types of immunity – innate – acquired immunity – immunization - vaccines - lymphoid organs – primary lymphoid organs – thymus, spleen, lymph nodes, tonsils – secondary lymphoid organs – MALT, GALT – factors influence immunogenicity – immune response – primary & secondary.

Unit II –Antigen and Antibody **17Hrs**
Antigen- definition – isotypic, allotypic and idiotypic variations – antigen presentation – haptens – affinity – avidity – precipitation and agglutination reactions – antigen – antibody interactions. Antibody – definition – structure – classification – biological activities – antigenic determinants - functions of immunoglobulins.

Unit III – Major Histocompatibility and Complement System **18Hrs**
General organization and inheritance of the MHC molecules and genes – MHC and susceptibility activation of CD^{4+} T cells – B cell activation – activation of CD^{8+} cells – super antigens – T independent B cell activation – cytokines - complement system – classical and alternative pathways – complement fixation test – complement deficiency.

Unit IV – Autoimmunity and disorders of the immune response **17Hrs**
Organ specific and systemic autoimmune diseases – mechanism for induction of autoimmunity – treatment -systemic lupus erythromatosus, rheumatoid arthritis – Sjorgren's syndrome – Polyarteritisnodosa – primary immunodeficiency – secondary immunodeficiency – AIDS – tuberculosis, malaria - autoimmunization.

Unit V – Hypersensitivity Reactions **18Hrs**
Gell - Coombs classification – IgE mediated – Type-I hypersensitivity – components, mechanism, regulation of Type-I response – antibody mediated cytotoxic – Type-II hypersensitivity – transfusion reactions – immune complex mediated – Type-III hypersensitivity

reactions – DTH mediated – Type-IV hypersensitivity reactions – stimulatory – Type-V hypersensitivity.

References:
1. Janis Kuby, Goldsby RA Kindt , BA Osborne, (2006), Immunology 6th edition W.H Freeman and Company, New York, ISBN: 1-4292-0211-4.
2. Coico R, Sunshine G. (2000), Immunology: A Short course, 6th edition, John Willey and Sons, Inc, Publications, New York, ISBN: 976 -0-470-08158-7.
3. Roitt, I., Brosstoff, J, Male D (2002), Immunology 12th edition, Blackwell Science Publishers, Berlin. . ISBN 9781118416068 .
4. BenjaminiE, G Sunshine, S. Leskowitz (1996) Immunology- A short course 4th edition Wiley Liss New York. ISBN 10: 0471348902
5. Ramesh S R, (2017), Immunolgy, McGraw Hill Education (India) private Limited, Delhi, ISBN:13:978-93-5134-322-6.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2				4		
CO3					5	
CO4			3			
CO5			3			

Mean: 3.4

BCH 2654   **CLINICAL BIOCHEMISTRY**   **6 Hrs/6Cr**

This course discusses on the fundamental principles of clinical chemistry and will provide an appreciation of the biochemical and physiological factors involved in the maintenance and alteration of organ and tissue function. The primary goal of the course is to teach certain common metabolic disorders. It also amalgamates disorders of carbohydrates, amino acids, lipids and nucleic acid metabolisms and their biochemistry. Special emphasis is given on the conventional biochemical tests carried out for the diagnosis of the disorders.

At the end of the course, students will be able to:

i.   Formulate the concepts of clinical samples handling for various examinations.
ii. Predict the causes, deficiency and clinical manifestations of carbohydrate and hematological disorders.
iii. Outline the inborn errors and metabolic disorders of lipid, protein and nucleic acids.
iv. Apply the knowledge of these disorders in society to compare clinical manifestation.
v.   Analyze the advancements and application in diagnostic clinical biochemistry.

Unit 1- Concepts of Clinical Biochemistry   16 Hrs
Basic concepts of clinical biochemistry – scope – historical perspectives and discoveries – units and measurements – normal ranges – clinical samples – collection – handling – transport – testing – preservation - blood, urine, CSF - organ function test – liver, kidney, Serology: C reactive protein test, Rheumatoid arthritis (RA) test, Troponin-C.

Unit II – Disorders of Carbohydrate metabolism and Hematology   19Hrs
Glucose homeostasis - diabetes mellitus – glycosuria – obesity – GTT – inborn errors – galactosuria – pentosuria – glycogen storage diseases – abnormal hemolytic states – anemia – thalassemia - haemophilia – thrombosis – porphyrias, porphyrinurias, thrombocytopenia – jaundice- Hemorrhagic disorders disseminated intravascular coagulation.

Unit III – Disorders of Lipid metabolism   18 Hrs
Triglyceride, phospholipid and cholesterol metabolic disorders – ketone bodies and ketosis Fatty liver – atherosclerosis - myocardial infarction - lipoprotenemias – inborn errors – Tay-Sach's disease, Niemann-Pick's Diseases, Faber's disease and Gaucher's disease - diagnosis - lipid profile.

Unit IV – Disorders of Protein, amino acids and Nucleic acid metabolism   19 Hrs
Disorders of plasma proteins – disorders of urea cycle- disorders of creatinine – ammonia and porphyrins – inborn errors- phenylalanemia – tyrosinemia, uremia, aminoaciduria maple syrup disease, phenylketonuria, alkaptonuria, albinism, Hartnup's disease.
Disorders of nucleic acid metabolism- disorders of purine and pyrimidine metabolism – gout – oroticaciduria – xanthinuria – LeschNyhan syndrome.

Unit V- Advancements of Clinical Biochemistry **18Hrs**

Advance Automations in clinical biochemistry, ELISA, fluorescence and chemiluminescence assay– use of diagnostic kits —biosensors, clinical Enzymology - quality control and safety measures in clinical biochemistry lab – introduction to recent diagnostic tools- ECG,EEG,EMG and USG.

References:

1. Thomas M. Devlin (2010), Textbook of Biochemistry with Clinical Correlations, 7[th]edition,Wiley- Liss publications, New York, ISBN: 978-0-470-28173-4
2. MN Chatterjee, RanaShinde (2007), Textbook of Medical Biochemistry,7th edition, Jaypee Brothers medical publishers, New Delhi, ISBN81-8448-134-9.
3. Praful. B. Godkar, Darshan. P. Godkar, (2014), Text Book of Medical Laboratory Technology 3nd edition, Bhalami Publishing House, Mumbai. India, ISBN – 9789381496190.
4. Carl Burtis, Edward R. Ashwood (1999), Tietz Textbook of Clinical Chemistry (1999) 3rd edition W. B.Saunders Company, Philadelphia, ISBN -0-8089-2138-X.
5. Bhagavan. N. V. (1992) Medical Biochemistry, Jones & Bartlett Publications, London.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1				4		
CO2		2				
CO3			3			
CO4			3			
CO5				4		

Mean: 3.2

BCH 2356 CANCER BIOLOGY 3 Hrs/3Cr

The course outlines the biology of cancer. Students will study the type of cancers, their propagations and impact on the physiology. It also provides knowledge on regulatory networks involved in the growth control. The students can also have an idea on cancer prevention and treatment associated with stem cells.

At the end of the course, students will be able to:

i. Communicate the knowledge of cell and organ based cancer and their differences from normal cells.
ii. Outline the components and mechanism of cell division, the regulatory factors and chromosomal abnormalities due to mutation.
iii. Evaluate different carcinogens, free radicals and the role of antioxidant in prevention of cancer.
iv. Demonstrate the mechanism of tumor suppressor gene and regulatory factors involved in cell death.
v. Identify the detection methods in treatment of cancer.

Unit I – Biology of cancer **12 Hrs**
Cancer – history – epidemiology – classification – based on cell type – benign, malignant carcinomas, sarcomas, myeloma, leukemia, lymphomas – based on organ – oral, colon, breast, prostate, lungs, liver, pancreas, cervix, ovary – pathology – differences between normal cell and cancer cell.

Unit II – Metastasis and cancer genetics **8 Hrs**
Epigenetics – role of histone proteins – Intra cellular and extra cellular control of cell division – role of protein kinase – carcinogenesis types – chemical, radiation, viral – Cancer genetics – chromosomal abnormalities – hereditary neoplasma and familial cancer syndromes.

Unit III – Apoptosis regulators **8 Hrs**
Apoptosis – Caspases – IAP – Bcl2 family proteins – TNF and other death signals – proto-oncogenes – growth factors – tumor suppressor genes – role of free radicals and anti-oxidants.

Unit IV – Cancer detection and treatment **9 Hrs**
Early detection – urine – blood – tumor markers – lab diagnosis – biopsy – molecular diagnosis – BRCA1 and BRCA2 genes– chemotherapy – gene therapy – radiation treatment and surgical removal.

Unit V – Stem cells in cancer therapy **8Hrs**
Introduction to stem cells – source – isolation – role of purging – growth – maintenance – treatment – immune reconstitution – stem cell transplantation.

References:
1. Gerald Karp (2007), Cell and Molecular Biology – Concepts and Experiments, 5th edition, John Wiley &Sons, IUC, New York. ISBN: 047-1-26890-9.
2. Weinberg A.R. (2007), The Biology of Cancer, Garland Science, London, ISBN: 08–153–4076–1.
3. Bruce Alberts, Dennis Bray, Julian Lewis, Martin Raff, Keith Roberts, James D Watson, (2008), Molecular Biology of the Cell, 5th edition. Garland Science, New York. ISBN: 08–153–4111–3.
4. Benjamin Lewin (2000), Genes IX. Oxford university press. New York. ISBN: 0-9780-763-75224.
5. Geoffrey L.Zubay (1998) Biochemistry 4th edition William C. Brown, ISBN: 9780075616955.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3					5	
CO4			3			
CO5				4		

Mean: 3.0

BCH 2458   IMMUNOLOGY & CLINICAL BIOCHEMISTRY LAB   4 Hrs/4Cr

This lab course a collaborative outcome of both Immunology and biochemical analysis in the clinical field, where the students will be trained to do Immunology techniques and to identify disease using antigen and antibody interaction. They will also be exposed in collection and processing of various clinical specimens and analyzing biochemical parameters in blood and urine. The students will be explored to the methods followed in estimating the essential components of blood and urine

At the end of the course, students will be able to:

  i. Learn immune diagnostic tests and assays against pathogens.
 ii. Antigen-antibody interactions demonstrated in gels and to visualize the bands
iii. Understand isolation and purification Immunoglobulin in serum
 iv. Analyze the normal and abnormal constituents of urine.
  v. Assess the major organic and inorganic constituents of blood by various standard methods.

Experiments
  1. Immuno diffusion –single radial and double diffusion
  2. Rocket immunoelectrophoresis.
  3. Identifying blood group and Rh typing
  4. Dot ELISA
  5. Isolation and purification of IgG from serum.
  6. Detection of antigens by immunoblotting techniques
  7. Collection, transport &processing of clinical specimens – Blood, Urine, Sputum, Throat swabs & Skin scrapings.
  8. Urine qualitative analysis – normal and abnormal constituents
  9. Estimation of blood sugar – OT method
 10. Estimation of serum cholesterol. – Zak's method
 11. Estimation of serum creatinine – Jaffe's method
 12. Estimation of urea from blood/urine – DAM/TSC Method
 13. Estimation of uric acid from urine/blood – Caraway Method
 14. Estimation of titrable acidity in urine.
 15. Estimation of calcium from urine – Clark &Collip method

References:
1. Clark WR, The Experimental Foundations of Modern Immunology; John Wiley and Sons Inc. New York. 1991.
2. Leslie Hudson and Frank C. Hay., Practical Immunology. Wiley. Ed.3; 1989.
3. Harold Varley, (2005), Practical Clinical Biochemistry, 4th edition, CBS Publishers, New Delhi.
4. Praful. B. Godkar, Darshan. P. Godkar, (2005), Text Book of Medical Laboratory Technology 2nd edition, Bhalami Publishing House, Mumbai. India.
5. Pattabiraman, T. N. (1998), Laboratory Manual in Biochemistry 3rd edition, All India Publishers and Distributors, Chennai, ISBN: 81-85502 -42.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2			3			
CO3			3			
CO4				4		
CO5					5	

Mean: 3.4

BCH 122V   **HUMAN ANATOMY**   **2 Hrs/2Cr**

The prime concern of this syllabus is to learn and understand anatomy of human body. This subject will develop an understanding of the structure and function of organs and organ systems in normal human body.

At the end of the course, students will be able to:

   i. Understand the anatomy of Head, Thorax, Abdomen and Pelvix with Musculoskeletal System
  ii. Understand the anatomy of nervous system and peripheral nervous system
 iii. Discuss the anatomy of respiratory and cardiovascular System.
 iv. Understand the anatomy digestive, excretory and reproductive System.
  v. Outline the significance of human embryology and endocrine system.

Unit I - Gross Anatomy   **6 Hrs**
Introduction to Head & Neck – Thorax – Abdomen – Pelvis – Upper limb – Lower limb and Musculoskeletal System- Tissue, Skin, Muscle and Bone.

Unit II – Neuro Anatomy   **8 Hrs**
Central nervous system – Peripheral nervous system: Brain – Cerebrum, Medulla, Midbrain, Pons, Cerebellum, Diencephalon -- Cranial nerves — Spinal cord –Spinal nerves. Sense organ.

Unit III – Thorax   **5 Hrs**
Thoracic wall – Diaphragm, Thoracic duct, Trachea, Larynx, Bronchi – Lungs – Oesophagus, Pericardium – Heart.

Unit IV– Abdomen & Pelvis   **6 Hrs**
Stomach – Small intestine – Large intestine – Liver – Spleen – Pancreas – Kidney – Pelvis – Urethra.

Unit V – Reproductive System   **5 Hrs**
Male& Female reproductive system, fetal Development, urogenital system, endocrine system etc.

References:
1. Ross &Wilson,(2018),Anatomy & Physiology in health & illness,13th edition, Elsevier Publications. UK. ISBN: 9780702072765.
2. Chaurasia B D, (2019), Human Anatomy, 8th edition, CBS publishers. India. ISBN- 13: 978-93-88902-75-5.
3. Gerard J. Tortora and Bryan H.Derrickson (2016), Principles of Anatomy and Physiology, 15th edition, Wiley Publications. ISBN: 978-1-119-32064-7.
4. Frank H. Netter , Atlas of Human Anatomy 6th Edition – Elsevier publication. ISBN-10 : 9780808924517.
5. Richard Drake A. Wayne Vogl Adam Mitchell,(2019), Gray's Anatomy for Students 4th Edition, Elsevier publication. ISBN: 9780323393041.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1			3			
CO2				4		
CO3		2				
CO4			3			
CO5			3			

Mean 3.0

BCH 222V   **DIET THERAPEUTICS**   **2 Hrs/2Cr**

Therapeutic nutrition or medical nutrition therapy explores the role played by therapeutic diets in the treatment of chronic disease and other nutritional disorders. This course will focus on the care of clients with pathologies caused by or causing nutritional impairments.

After completing this course, the student should be able to:
  i.   Recommend dietary adjustments leading to better health outcomes and improved quality of life
  ii. Acquire knowledge and skills for applying evidence–based medical nutrition for prevention and treatment.
  iii. Specify dietary considerations in diabetes & other disorders.
  iv. Discuss planning of diet therapy for common diseases.
  v.   Outline the dietary management of infants and child diseases.

Unit I: Introduction to Nutrition   **5 Hrs**
Nutrition – definition and concepts – food selections – RDA, daily food guides, dietary guidelines, nutritional labelling, NCEP, food regulatory agencies, food laws.

Unit II: Food Habits: **5 Hrs**
Introduction– food and symbol – examples of food behaviour, poverty, appetite and biological food needs - effects of culture, religion and geography on food behaviours - weight control & dieting – calories, exercise & eating habits - factors affecting food consumptions.

Unit III: Diet therapy for surgical conditions   **6 Hrs**
Introduction – goals of dietary management - pre operative nutrition– rationale for diet therapy - and postoperative nutrition – feeding the patient after the operation – recovery.

Unit IV: Diet therapy for infants and childhood diseases   **6 Hrs**
Overview of therapeutic Nutrition – feeding of infants - diarrhoea – causes, characteristics & treatment, high risk infants – nutrient needs, initial feeding, uses of breast milk – childhood - dietary management of lactose intolerance, cystic fibrosis & celiac diseases.

Unit V: Diet therapy for Adulthood   **8 Hrs**
Introduction – early & middle adulthood – elderly – health problems – factors affecting nutrition & diet – nutrition quackery – exercise, fitness and stress reduction principles – physical fitness – exercise & nutritional factors – caloric cost and running – stress & special populations

References:
1. Peggy S. Stanfield, (1992), Nutrition and Diet Therapy, Second edition, Jones and Bartlett Publishers, London. ISBN: 0-86720-336-6.
2. Srilakshmi. B, (2001), Dietetics, 3rd edition, New Age International Pvt. Ltd. Publishers, New Delhi. ISBN: 81- 224- 1252-1.
3. Anderson, L.,(1982) Nutrition in health and disease, 17th edition, Lippincott Co. Philadelphia ISBN: 9780397542826.
4. Swaminathan. M (2014), Advanced Textbook on Food and Nutrition, 2nd edition, volume 2,

The Bangalore Printing and Publishing Company, Bangalore.
5. Gupta L.C, Kusum Gupta and Abhishek Gupta (2006), Food and Nutrition – Facts and figures, 6th edition, Jaypee Brothers Medical Publishers Pvt. Ltd., New Delhi. ISBN: 81-8061- 571-5.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2				
CO2		2				
CO3				4		
CO4			3			
CO5			3			

Mean: 2.8

BCH322V   **HERBAL MEDICINES**   **2Hrs/2Cr**

The course is intended to make students understand the various aspects of traditional system of medicines and to enhance the understanding of the techniques for isolation, estimation and analysis of various herbal formulations. This course imparts adequate knowledge of practical aspects of standardization and screening of herbal formulations to ensure safety and efficacy. The Indian system of medicine will be also introduced to the students.

At the end of the course, students will be able to:
   i. Describe the theoretical aspects of extraction, purification and identification of natural products.
   ii. Explain the pharmacological screening methods for herbal extracts and formulations.
   iii. Develop techniques for new drug development from natural sources.
   iv. Design methods of standardization for herbal drug or formulations.
   v. Isolate and estimate various phytoconstituents and adulterants in herbal drugs from natural source.

Unit I – Indian system of Medicines   5 Hrs
Introduction to Siddha, Ayurveda and Unani systems – salient features of folk medicine – traditional formulations - methods of standardization of native medicines – quality control and value addition.

Unit II - General Methods of Processing of Herbs   6Hrs
 Definition – sources - identification- authentication of herbs - processing of herbs - collection – harvesting – garbling - packing - storage conditions - Methods of drying – Natural - artificial drying . Different methods of extraction - maceration –percolation - hot continuous - pilot scale - supercritical fluid -Purification - Recovery of Solvents.

Unit III - Standardization of Herbal Raw materials and Extracts   8Hrs
Standardization of herbal raw materials - physical, chemical and biological methods. Standardization of herbal extracts - physical, chemical and spectral analysis - Qualitative and Quantitative estimation of active principles from standardized extracts. Biological standardization - Pharmacological screening of herbal extracts and Microbiological evaluation of herbal extracts.

Unit IV - Isolation and Estimation of Phytoconstituents   6 Hrs
Different methods of isolation - Qualitative estimation of phytoconstituents - L – Hydroxy citric acid, Catechins, L-Dopa, Alicin and Piperine.

Unit V - Herbal Formulation Development & Nutraceuticals   5 Hrs
Selection of herbal ingredients - dosage forms of herbal drugs - Stability studies of herbal formulations. Syrups - mixtures - tablets and Novel dosage forms – Phytosomes.Nutraceuticals - General aspects - Health benefits and role of Nutraceuticals - Ginger, Garlic, Honey, Amla, Ginseng, Ashwagandha in ailments - Diabetes, CVS diseases, Cancer and Gastro intestinal diseases.

References
1. Trease and Evans, Pharmacognosy, (2009), 16th Edition, Saunders Ltd, ISBN-10 : 0702029335.
2. Kulkarni, V.M and Bothera, K.G. (2005). Drug Design 8th edition. Nirali Publications, Pune. ISBN13: 9788185790114.
3. Bhattacharjee, S.K. (2004). Handbook of MedicinalPlants, 4th edition, Pointer Publishers, Jaipur,ISBN 13: 9788171324064.
4. Trivedi, P.C. (2004). Medicinal Plants: Utilization and Conservation, 5th edition, Aavishkar Publishers and Distributors, Jaipur, ISBN: 9788188237623.
5. C.K. Kokate, Purohit, Gokhlae, Text book of Pharmacognosy , (1996.), 4th edition, Nirali Prakashan, ISBN10: 8196396155.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1		2		4		
CO2			3			
CO3					5	
CO4		2				
CO5			3			

Mean: 3.4

DEPARTMENT OF PHYSICAL EDUCATION

Value Added Courses
w.e.f 2020 – 2021

SEM	COURSE CODE	COURSE NAME	HOURS	CREDITS
I	BPE 121V	Studies on Morphology	2	2
II	BPE 122V	Sports Management	2	2
III	BPE 221V	Exercise Therapy and Massage	2	2
IV	**BPE 222V**	**Organization and Administration in Physical Education**	**2**	**2**
V	BPE 321V	Physical Fitness Training	2	2
VI	**BPE 322V**	**Nutrition in Sports**	**2**	**2**

BPE 222V   ORGANIZATION AND ADMINISTRATION

IN PHYSICAL EDUCATION   2Hr/2Cr

To educate the pupil on planning, Administration, Budgeting, maintenance of equipment's and organization of physical education programme

At the end of the course, the students will be able to:

I.   Generalize the meaning of planning, organization and administration in physical education.
II.   Understanding the physical education programme to higher level.
III.   Integrate the physical education programme.
IV.   Illustrate and enumerate the programmes evaluated
V.   Compile all the three process.

UNIT 1

Meaning of Planning, Organization and Administration

UNIT 2

Objectives of Planning, Organization and Administration

UNIT 3

Function of Planning – Organization – Staffing – Evaluation and Performance Appraisal – Structure of A. I. U – SDAT – SAI

UNIT 4

Organization and Administration of Physical Education in Educational Institutions (Schools – RDS (Zonal – Divisional – State) BDS (Zonal – Divisional – State) – Colleges (University (Zonal – Inter zonal) – South Zone Inter University – All India Inter University

UNIT 5

Finance & Budgeting in physical education – preparation of budget – Records & Register – Purchase & care of supplies & equipment utilization

References:

Dr. Ali Jawaid 2005 "Organization and Administration in Physical Education and Sports**"** Khel Sahitya Kendra; 2009th edition, ISBN-10 : 8175242876

Greenberg, Jayne, LoBianco, Judy 2019 "**Organization and Administration of Physical Education: Theory and Practice"** Human Kinetics, ISBN 1492589101, 9781492589105

Mapping Course Outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1						6
CO2		2				
CO3						6
CO4		2				
CO5						6

Mean: 4.4

BPE 322V   **NUTRITION IN SPORTS 2Hr/2Cr**

Enable students to

1. Evaluate the qualities of Diet and Food
2. Understand the worthiness of Nutrition as Medicine
3. To get rid of Mental and Physical ailments through Balanced Diet

At the end of the course, students will be able to:

i.   Name the main process to deal with growth and development may enable their effective understanding of importance of food.
ii. Knowledge of Diet and balance diet will help them to alter diet for everyone obese, youth & young aged and sick and criticize.
iii. Make them understand the classifications of nutrients and requirement of nutrients for aged and sports persons
iv. Evaluate the measurements of nutrients, calories; joule will help them prescribe food for everyone. BMI, basal metabolic index will provide the required level of diet.
v.   Effective energy expenditure and diet choice to provide them a tool to plan a food chart for the needed person.

Unit – 1

Meaning of nutrition – Importance of nutrition – meaning of metabolism – types of metabolism – fat protein and carbohydrate – metabolism – energy – measurements

Unit – 2

Bases of nutrition – Carbohydrate and its types – Protein and its type – Fat and types of fat (Saturated Fat and Non Saturated Fat) – Vitamin – Amino acids – fat soluble and different type of water soluble and requirement of water – dehydration

Unit – 3

Measurement of food energy – calorie and its measurement (joule) measuring the energy values of diet

Unit – 4

Aerobic and anaerobic metabolism – nutrition utilized in aerobic and anaerobic activity – nutritional support according to the duration and intensity of activity

Unit – 5

Performance enhancement diet and nutrition – supplementation of diet – diet to be avoided while completion – Diet in excess, negative value of performance – Alcohol – Diet leading mental stress

References

1. Clark Nancy, 2018,"**Sports Nutrition Guidebook**" Human Kinetics Publishers, ISBN: 9780736074155
2. Wolfe J.Kevin, 1999, "**Fat Free Junk Food**" Random House USA Inc, ISBN: 9780517887264

Mapping Course Outcome with Bloom's Taxonomy

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1					5	
CO2					5	
CO3						6
CO4		2				
CO5		3, 3				

Mean: 4.8

UNDERGRADUATE DEPARTMENT OF FOOD SCIENCE& NUTRITION

Value Added Courses
w.e.f 2020-2021

SEM	Course No.	Course Title	Hrs	Cr
II	FSN122V	Mental Health Nutrition	2	2
IV	FSN 222V	Oil Seed Processing	2	2
VI	FSN 322V	Technology of Fruits and Vegetables	2	2

FSN 122V   **MENTAL HEALTH NUTRITION**   **(2hrs/wk) (2cr)**

The course aims at providing a wide knowledge on common mental illness and the way to manage through foods and specific function and effects of its components.

Course outcomes
  i.   Discuss on mental health problems in various age groups.
  ii. Analyze the role of food in mental health.
  iii. Identify the role of lipids for a healthy mind.
  iv. Outline the Role of nutrients in mental disorders
  v.   Critique the stress and its effect on mental health.

Unit 1:   **(6 hrs)**
Mental health problems - Mental health problems in different age group

Unit 2:   **(6 hrs)**
The role of food in mental health problem- Factors affecting mental health, Nutrition for mental health.

Unit 3:   **(6 hrs)**
Role of lipids in mental health- EFA, effect of cholesterol in mental health and cholesterol lowering nutrients.

Unit 4:   **(6 hrs)**
Role of nutrients in mental disorders - Role of carbohydrates, proteins, lipids, vitamins & minerals.

Unit 5:   **(6 hrs)**
Nutrition in stress- Stress and food craving, Nutrition and stress and the developing fetus.

Text book:
  1. Shlomo Yehuda, David I. Mostofsky, Nutrients, Stress and Medical Disorders, Springer Science & Business Media, 2006 - Medical

References:
  1. FeliceJacka, Brain Changer: The Good Mental Health Diet, Macmillan Publishers Aus., 26-Feb-2019 - Health & Fitness
  2. Patrick Holford, Optimum Nutrition for the Mind, ReadHowYouWant.com, 21-Apr-2009 -Health & Fitness
  3. Ruth Leyse-Wallace, Nutrition and Mental Health, CRC Press, 29-Jan-2013 - Medical

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO 1		2		4		6
CO 2		2			5	
CO 3		2	3	4		
CO 4		2	3	4	5	
CO 5		2	3	4	5	

Mean = 3.5

FSN 222V   **OIL SEED PROCESSING**   **(2hrs/wk)(2cr)**

The objective of this certificate course technology of oil seed processing is to impart knowledge to the individuals about the components of the oilseed process, safety and industrial requirements.

Upon completion of this course, the student will be able to:

    i.   Assess quantity and quality of extracted oil& de-oiled cake, Impact on environment and process cost.
    ii.   Analyze different refining process and select optimum process to be adopted for processing of different oils.
    iii.   Adapt the acquired knowledge for controlling and assuring the quality parameters of oils.
    iv.   Understand the packaging and storage aspects of edible oil.
    v.   Understand the technology being adopted in the industry through field visit.

Unit 1   **(5 hrs)**

Introduction to oil seeds and oil: Different types of oil seeds;Seed Composition; Seed characteristics; Composition of oil and their characteristics; anti nutritional compounds found in oil seeds.

Unit 2   **(5 hrs)**

Oil seed processing methods: Handling, drying, storage, grading; Pre-treatments- cleaning, dehulling, size reduction and heat treatments; oils extraction methods; Refining of oil.

Unit 3   **(10 hrs)**

Quality analysis of oils: Determination of chlorophyll content;free fatty acid content; glucosinates; moisture; specific gravity; viscosity; color; iodine value; peroxide value; acid value and adulteration in oil.

Unit 4   **(5 hrs)**

Packaging and storage aspects of edible oils: Storage conditions; types of packages used in oil industry; Labeling of oil packages- statutory requirements.

Unit 5   **(5 hrs)**

Field Visit: Visit to oil seed processing industry and report writing.

Text Books:

1. A. Chakraverty. 2008. Post-Harvest Technology of Cereals, Pulses and Oilseeds, 3rd Ed. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Frank D. Gunstone. 2008. Oils and Fats in the Food Industry. John Wiley and Sons, Ltd., West Sussex, UK.

References:

1. Bailey's Industrial Oil and Fat, Edition 6 Vol-5 (2005), Edited by FeireidoonShahidi
2. Chemistry &Technology of Oils &Fats by M.M. Chakraborty

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1				5	
CO2				4		
CO3			3	4	5	
CO4		2				
CO5		2	3	4	5	6

Mean=3.66

FSN 322V   TECHNOLOGY OFFRUITS AND VEGETABLES   (2hrs/wk)(2cr)

To enable the students to understand the processing of fruits and vegetables and to impart technical knowledge about productsdevelopment and preservation.

Upon completion of this course, the student will be able to:
  i.   Understand the production status and post harvest handling methods of fruits and vegetables
  ii.   Learn the methods of processing and preservation of freshly harvested and cut fruits and vegetables.
  iii. Illustrate the production and preservation methods of fruit juices.
  iv.   Understand the dehydration methods and design of driers used for drying fruits and vegetables.
  v.   Describe the aseptic technology for product preservation

Unit 1:   **(6hrs)**

Selection of Fruit and Vegetables: Production of Fruits and vegetables in India. Cause for heavy losses, Composition of each of the major fruits and vegetables produced in the country- Spoilage factors, Post harvest field operations.

Unit 2:   **(6hrs)**

Preservation of fruits and vegetables: Canning operations of fruits and Vegetables.- Different filling, closing and sterilization operations- . Bottled Products: Preparation of products like Jams, Jellies, Marmalades, Ketchup, Sauce, and Squashes etc. - FSSAI specifications.

Unit 3:   **(6hrs)**

Processing of fruits and vegetables: Common machinery for operations like Peeling, Slicing/Dicing and Pulping. Preparation of specialty products like, Fruit juice concentrates, Fruit Bars and Fruit powders.Processing and packaging of cut fruits and vegetables.

 Unit 4:   **(6hrs)**

Dehydration: Dehydration principles and equipment used for drying –Cabinet tray dryer, Bin dryer, Freeze Dryers. Freeze drying Preparation of Fruit Powders.Working of Spray Dryer and Drum Dryer. Preparation of Dried slices, Intermediate Moisture Food.

Unit 5:   **(6hrs)**

Aseptic processing: Aseptic processing and Bulk packing of Fruit juice and vegetables concentrates. Aseptic heat exchangers for sterilizing and concentrating the product.

Text Books:
 1. Hui Y.H and Others, "Hand Book of Vegetable Preservation and Processing", Mercel Dekker, New York, 2004
2. James G. Brennan, (2006) Food Processing Hand book. Wiley-YchVerlagGmbh&CoKgaA, Weinheim, Germany

Reference Books:
1. Chakraverty, A., Mujumdar A.S., Raghavan G.S.V and Ramaswamy H.S. "Handbook of Post-harvest Technology" Marcel Dekker Press, USA, 2001.
 2. L.R.Verma and V.K.Joshi, (2000) Post Harvest Technology of fruits and vegetables. Indus Publishing Co, New Delhi. publishing Limited, Cambridge, England.
3. P.Fellows, (2000) Food processing Technology: Principles and Practice. Wood Head

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO 1		2				
CO 2					5	
CO 3		2		4	5	
CO 4			3			
CO 5		2				

Mean=3.2

UNDERGRADUATE DEPARTMENT OF PSYCHOLOGY

PROGRAMME FOR B.Sc. PSYCHOLOGYFROM 2020 BATCH ONWARDS

SEM	PART	CODE	TITLE	Hr/Wk	Cr	Marks
I	Part I	Lang	Tamil/Hindi/French	3	2	30
	Part II	Lang	English	3	2	30
	Part III Major	PSY 1511	Introduction to Psychology - I	5	5	75
		PSY 1413	Developmental Psychology - I	4	4	60
		PSY 1415	Biological Psychology	4	4	60
	Supportive course	PSY 1417	Introduction to Human Genetics & Heredity	5	4	60
	Part IV	NME XXXX	XXX	3	2	30
		LS XXXX	XXX	3	2	30
			TOTAL	**30**	**25**	**375**
II	Part I	Lang	Tamil/Hindi/French	3	2	30
	Part II	Lang	English	3	2	30
	Part III Major	PSY 1512	Introduction to Psychology - II	5	5	75
		PSY 1414	Developmental Psychology - II	4	4	60
		PSY 1416	Introduction to Research	4	4	60
	Supportive Course	PSY 1418	Educational Psychology	5	4	60
	Part IV	NME XXXX	XXX	3	2	30
		LS XXXX	XXX	3	2	30
	Part V	Extension	NSS, SLP, PED	2	1	
			TOTAL	**30+2**	**25+1**	**375**
III	Part I	Lang	Tamil/Hindi/French	3	2	30
	Part II	Lang	English	3	2	30
	Part III Major	PSY 2511	Social Psychology - I	5	5	75
		PSY 2517	Abnormal Psychology - I	5	5	75
		PSY 2415	Rehabilitation Psychology	5	5	75
		PSY 2413	Descriptive Statistics	4	4	60
	Supportive Course	PSY 2419	Criminal Psychology	5	4	60
			TOTAL	**30**	**27**	**405**

SEM	PART	CODE	TITLE	Hr/Wk	Cr	Marks
IV	Part I	Lang	Tamil/Hindi/French	3	2	30
	Part II	Lang	English	3	2	30
	Part III Major	PSY 2512	Social Psychology - II	5	5	75
		PSY 2516	Abnormal Psychology - II	5	5	75
		PSY 2414	Inferential Statistics	4	4	60
		PSY 2514	Experimental Psychology - II	5	5	75
	Supportive Course	PSY 2418	Industrial Psychology	5	4	60
	Part V	Extension	NSS, SLP, PED	2	1	
			TOTAL	**30 + 2**	**27+1**	**405**
V	Part III Major	PSY 3511	Cognitive Psychology	5	4	60
		PSY 3513	Health Psychology	5	4	60
		PSY 3515	Principles of Counselling	5	5	75
		PSY 3517	Disaster Management	3	3	45
		PSY3519	Psychological Testing	5	5	75
		PSY3221	Internship Training		2	30
	Part IV	LS XXXX	XXX	3	2	30
		EVS	Understanding our Environment	4	2	30
			TOTAL	**30**	**27**	**405**
VI	Part III Major	PSY 3612	Positive Psychology	6	6	90
		PSY 3614	Cyber Psychology	6	6	90
		PSY 3606	Research Project	6	6	90
		PSY 3519	Introduction to Psychotherapy	5	5	75
	Part IV	LS XXXX	XXX	3	2	30
		HVS		4	2	30
			TOTAL	**30**	**27**	**405**
			GRAND TOTAL FOR SEMESTER (1 TO 6)	**180+4**	**158+2**	**2370**

SUPPORTIVE COURSES

SEM	PART	CODE	TITLE	Hr/Wk	Cr	Marks
I	III	PSY 1417	Introduction to Human Genetics & Heredity	5	4	60
II	III	PSY 1418	Educational Psychology	5	4	60

III	III	**PSY 2419**	Criminal Psychology	5	4	60
IV	III	**PSY 2418**	Industrial Psychology	5	4	60

NON-MAJOR ELECTIVE COURSES

SEM	PART	CODE	TITLE	Hr/Wk	Cr	Marks
I	IV	**PSY 1211**	Psychology in Daily Life	3	2	30
		PSY1213	Psychological Well-being	3	2	30
II	IV	**PSY 1212**	Psychological First Aid	3	2	30
		PSY1214	Society & Psychology	3	2	30

LIFE – SKILL COURSES

SEM	PART	CODE	TITLE	Hr/Wk	Cr	Marks
I	IV	**PSY 1215**	Life Skill Education	3	2	30
		PSY1217	Leadership & Personality Development	3	2	30
II	IV	**PSY 1216**	Skills for Psychologists	3	2	30
V	IV	**PSY 3211**	Employability Skills	3	2	30
		PSY 3213	Psychology in Media	3	2	30
VI	IV	**PSY 3212**	Career Guidance	3	2	30

VALUE ADDED COURSES

SEM	CODE	TITLE	Hr/Wk	Cr	Grade
I	PSY 121V	Problem Solving	2	2	
II	PSY 122V	Stress Management	2	2	
III	PSY 221V	Self-Awareness	2	2	
IV	PSY 222V	Empathy	2	2	
V	PSY 321V	Emotional Intelligence	2	2	
VI	PSY 322V	Resilience	2	2	

Programme Outcomes (Pos)

Undergraduate programmes are expected to have developed in undergraduates the following graduate attributes:

1. *Cognitive Ability*: Capacity to register, remember and recall ideas and add knowledge in the relevant discipline.

2. *Reflective Skills*: Ability to apply knowledge and solve problems in similar but unknown disciplinary contexts.

3. *Communicative Competence*: Ability to communicate in one's mother tongue and in English discipline-specific complex ideas and life experiences.

4. *Aptitude for Higher Studies*: To be proactive in demonstrating general aptitude to evaluate the circumstances and come up with an interest to progress further in career by opting for post studies or through entrepreneurial initiatives at offing in the multidisciplinary and trans-disciplinary contexts.

5. *Employability Capacity*: Ability to serve the nation as school teachers, responsible staff and officers in various private and public sectors to find suitable meaning for the education they have pursued here.

6. *Action Research Aptitude*: Skills to undertake action research as independent projects on the themes and issues concerning life and work moving ahead with techno-savvy and eco-friendly approaches.

7. *Quest for Lifelong Learning*: Skills to learn lifelong independent of academia transcending the space and time barriers.

8. *Study Abroad*: Ability to pursue higher studies in a global context of multilingual, multicultural, multiethnic and multiracial communities without compromising the values and ethos cherished and nurtured in love with the motherland.

9. *Citizenry Attributes*: Be responsible citizens with democratic bent of mind, probity in public life, moral uprightness, and commitment for social uplift of the marginalized, the poor, the destitute, and the needy.

10. *Civic Responsibility*: Capacity to respect human values, to exhibit religious tolerance, and to practice politics of difference and dissent.

PROGRAM SPECIFIC OUTCOME

End of the program the student will able to:

PSO1: Recall and assimilate the meaning, methods in psychology

PSO2: Express the psychological terms and understand the higher order concepts in psychology

PSO3: Review the important psychological concepts and apply it in an appropriate place.

PSO4: Compare and appraise the acquired skills and techniques in the fields of psychology.

PSO5: Demonstrate the knowledge and skills required for an effective professional in psychology.

PSO6: Assess the client's issues and understand their psychological problems in appropriate context.

PSO7: Employ the psychological knowledge and skills in different settings.

PSO8: Apply the ethical principles and values of psychology in the society.

PSO9: Create awareness and sensitization for the needy population on various psychological issues.

PSO10: Identify, Analyse and interpret the information in scientific manner and formulate intervention strategies for psychological well being.

Mapping of Program Specific Outcomes (PSOs) with Program Outcomes (POs)

POs /PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
PSO1	X	X	X	X	X	X	X	X		
PSO2	X	X	X	X	X	X	X			
PSO3	X	X	X	X	X	X	X			
PSO4	X	X	X	X	X	X	X			
PSO5	X	X	X	X	X	X	X		X	X
PSO6	X	X			X	X			X	X
PSO7	X	X	X		X	X	X	X	X	X
PSO8	X	X	X		X	X	X		X	X
PSO9	X	X	X		X	X	X		X	X
PSO10	X	X	X		X	X	X	X	X	X

Mapping of Program Specific Outcomes (PSO) with Courses

Course code / PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
Semester - I										
PSY 1511	X	X	X		X		X			
PSY 1413	X	X	X		X					X
PSY 1415	X		X	X	X					X
PSY 1417	X	X		X					X	X
PSY 1211		X	X		X			X		X
PSY 1213	X		X		X			X		X
Semester - II										
PSY 1512		X	X	X	X					X
PSY 1414	X	X	X		X					X
PSY 1416	X	X			X	X				X
PSY 1418	X	X	X			X				X
PSY 1212	X	X						X	X	X
PSY 1214		X	X	X	X			X		

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

K1 = Knowledge, K2 = Understand, K3 = Apply, K4 = Analyze, K5 = Evaluate, K6 = Create

B.Sc. PSYCHOLOGY	PART III MAJOR: CORE PAPER-1	5 Hrs Per week
Semester – II	INTRODUCTION TO PSYCHOLOGY - II	Credit 5: MARKS:75
Code: PSY 1512		

Course Description:

This course aims to continue to introduce different areas of psychology and create knowledge and develop the skills to explore, understand, and improve the self.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Describe the Basic concepts in Intelligence

CO2: Associate relationship between personality and behavior

CO3: Use personality theories to understand assessment application

CO4: Relate with the significance of motivation in everyday life

CO5: Reason with the concept of emotion

UNIT I Intelligence

Intelligence- Definition, types, theories of intelligence, measuring intelligence - concepts of C.A., M.A., & I.Q., Assessment, IQ tests and cultural bias, extremes in IQ scores. Nature vs nurture in intelligence.

UNIT II Introduction to Personality

Personality- Definition, Theories of personality - Psycho-dynamic approach- Freudian and Neo-Freudian. Behavioural, social cognitive, and humanistic perspectives – Bandura, Rotter, Rogers, Maslow

UNIT III Personality and it's Measurement

Personality- Type and Trait theories: Eysenck, Allport, Cattell; 16 PF, the five-factor model of personality. Measuring personality: Importance and concerns - Objective tests, projective tests, behavioral assessments.

UNIT IV Motivation

Motivation- Definition, types, theories of motivation – Approaches based on evolution, drives, psychological needs, arousal, incentive. The implication of motivation in hunger, sex, and achievement.

UNIT V Emotion

Emotion – Definition, Physiology, emotional expression, Theories of emotion- James-Lange theory, Canon-Bard theory, Cognitive theories.Polygraph and its application.

Pedagogical Method:

Lecture, PPT, Group discussion, activity, educational videos and lab demonstrations.

TEXT BOOKS:

1. Morgan, Clifford. T., King, Richard. A., Weisz, John. R., Schopler, John (1993). Introduction to Psychology, Tata McGraw Hill.
2. Ciccarelli, S. K., & White, J. N. (2017). Psychology.4th edition. New Jersey: Pearson education

REFERENCE BOOKS

1. Hall, C. S., Lindzey, G., &Cambell, J. B. (1998). Theories of Personality. New York: J. Wiley & Sons.
2. Rathus, S. A. (2018). Psych 5. Cengage Learning.

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1		2				
CO2		2				
CO3			3			
CO4				4		
CO5				4		

Mean score –2+2+3+4+4=15/5
$\bar{x}$= 3

B.Sc. PSYCHOLOGY	PART III MAJOR: CORE PAPER-5	4 Hrs Per week
Semester - II Code: PSY 1414	DEVELOPMENTAL PSYCHOLOGY II	Credit 4: MARKS:60

Course Description:

This course aims to apply psychological principles in Adolescence up to old age. This course will guide the learners to understand the milestones in all the aspects of development in adolescence to end of life.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Identify and relate basic concepts of adolescence.

CO2: Infer the relationship with parents and friends.

CO3: Assimilate Development in young hood

CO4: Understand and interpret the concept of sandwich generation.

CO5: Learn about old age and stages of death dying and grieving.

UNIT I:

Adolescence: Physical development, social development, emotional development, cognitive development. Health and adolescence.

UNIT II:

Adolescence Identity Formation- gender identity and sex role identity; Relationship with parents - Roots of conflicts, influence of parents life situation in the life of adolescents ; Relationship with peers.

UNIT III:

Young adulthood: Intellectual development; Vocational adjustment in young adulthood - stability of vocational choice; Work and gender influences. Marriage and areas of marital adjustment; Parenthood; Factors influencing adjustment to parenthood, Divorce.

UNIT IV:

Middle Age (40-64 years): Physical and cognitive development, Adjustment to physical changes. Relationship with maturing Children; Relationship with aging parents.

UNIT V:

Late Adulthood (65 - death) – Physical, Cognitive, Psycho-Social Development. Old Age - Social and family adjustments. - health problems, spirituality in later life. Death, dying and grieving.

TEXT BOOK:

- Hurlock, E. (1980): *Developmental Psychology*, Tata McGraw Hill

REFERENCE

- Paplaia, Diane B., Olds, Sally, Wendkos(1992): **Human Development**, Tata McGraw Hill Publishing Co
- Shaffer, David R(1996): **Developmental Psychology**, IV Edition, Brooks/Cole Publishing Company
- Travers, D. (1999). **Human Development. Across the lifespan**. 4th ed. London: McGraw Hill.
- Conger, John.J. andGalambos, Nancy. L. (1997): Adolescence and Youth, 5th edition, Longman, New York.
- Santrock, J. W. (2007). A topical approach to life-span development (3rded.). New York: McGraw Hill
- Santrock, J. W. (2006). *Life-span development* (10th ed.). McGraw-Hill.

B.Sc. PSYCHOLOGY	PART III MAJOR: CORE PAPER-3	4 Hrs Per week
Semester – II	**INTRODUCTION TO RESEARCH**	Credit 4:
Code: PSY 1416		MARKS:60

Course Description:

This course will provide students with an orientation towards research in the field of psychology. It is an introductory paper in research methodology for social sciences.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Understand the meaning and evolution of scientific research

CO2: Identify the various sampling techniques

CO3: Explain the different ways to systematically measure behaviour

CO4: Infer the importance of ethics in psychology

CO5: Apply knowledge of scientific writing

UNIT I Introduction

Psychological Research: Early contributions, goals, value. The scientific approach, behavioural science and common sense, philosophy of science, the role of theory, research hypotheses, a priori and post hoc explanations, conceptual and operational definition, research process.

UNIT II Sampling behaviour

Sampling techniques: Probability samples – simple random sampling, stratified random sampling, cluster sampling, multistage sampling. Nonprobability samples – convenience sampling, quota sampling, purposive sampling.

UNIT III Measuring behaviour

Strategies of behavioural research – descriptive, correlational, experimental, quasi-experimental. Approaches to psychological measurement – observational, physiological measures, archival data, self-report.

UNIT IV Ethical considerations

Ethical issues in research – approaches to ethical decisions, basic ethical guidelines, IRB, the principle of informed consent, Invasion of privacy, Coercion to participate, physical and mental stress, deception in research, objections to deception, debriefing, confidentiality, ethical principles in research with animals, scientific misconduct.

UNIT V Scientific writing

Scientific writing: Journal publication, elements of good scientific writing, avoiding biased language, Parts of a manuscript: Title, abstract, introduction, method, results, discussion. Citing and referencing: APA format.

Pedagogical Method:

Lecture, PPT, Group discussion, activity and educational videos.

TEXT BOOK

1. Leary, M. R. (2003) Introduction to behavioral research methods, 3rd edition. Pearson.

2. Gravetter, F. J., &Forzano, L. A. B. (2018). Research methods for the behavioral sciences. Cengage Learning.

REFERENCE BOOKS

1. American Psychological Association (2019), Publication Manual of the American Psychological Association, 7th edition.

2. Coolican, H. (2004). Research methods and Statistics in Psychology. London: Hoddes Arnold

3. Kerlinger, F. N. (1973). Foundations of behavioural research. USA: Holt, Rinehart & Winston.

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1	1					
CO2		2				
CO3				4		
CO4				4		
CO5					5	

Mean score –1+2+4+4+5=16/5

$\bar{x}$= **3.2**

B.Sc. PSYCHOLOGY	PART III MAJOR: SUPPORTIVE PAPER-2	5 Hrs Per week
Semester - II	EDUCATIONAL PSYCHOLOGY	Credit 4:
Code: PSY 1418		MARKS:60

Course Description:

This course aims to apply psychological principles and theories for the betterment of the teaching and learning. This course will guide the learners how to manage the classroom and selection of an appropriate teaching method.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Define psychological elements in the learning process and different views about learning.

CO2: Express the various aspects related to cognitive development.

CO3: Analyze the importance of development in education

CO4: Appraise the theoretical and practical know-how of how to work as an educational psychologist.

CO5: Compare different types of teaching methods

Unit-I Introduction to Educational Psychology.

Educational Psychology: Meaning, Definition, Nature and Historical Background. Principles of Educational Psychology, Goal and Objectives of Educational Psychology. Need, importance and scope of Educational Psychology.

Unit II Cognitive Development: Piaget's theory and Vygotsky's Theory.

Cognitive Development: Piaget's theory: Cognitive Processes-Piagetian Stages-Evaluating Piaget's Theory: Contributions and Criticisms. Vygotsky's Theory-Assumptions- Zone of Proximal Development-Scaffolding-Language and Thought.

Unit III Language Developments and Intelligence

Language Development: Language – Morphology - Syntax - Semantics - How Language Develops-Biological and Environmental Influence. Memory: Encoding-Storage-Retrieval and Forgetting. Intelligence: meaning and theories of Intelligence, Theories of Multiple Intelligence

Unit IV Learning

Learning: Behavioral Approach to Learning-Classical Conditioning, Instrumental and Operant Conditioning. Increasing Desirable Behaviors- Decreasing undesirable Behavior. Bandura's Social Cognitive Theory-Observational Learning.

Unit V Teaching

Teaching: Art and Science - Effective Teaching: Professional knowledge and Skills - Goal Setting and Instructional planning Skills - Classroom Management Skills - Motivational Skills - Technological Skills. Teaching Techniques: Description - Demonstration- Lecture Method - Discussion Method – Dramatization - Explanation - Aptitude Treatment Interaction –Mastery Learning –Teaching through Multimedia.Teaching Skills. Strategies to develop teaching skills

Pedagogical Method:

Lecture, PPT, Group discussion, activity and exposure visits.

TEXT BOOK:

1. Santrock, J. W. (2006), **Educational Psychology**, 2nd Edition, New Delhi, Tata
   McGraw Hill.

REFERENCE BOOK:

2. Corno, Lyn & Anderman, Eric M (2012), Handbook of Educational Psychology (2nd edition)Routledge

3. Misra, Girishwar& Woolfolk, Anita (2012), **Fundamentals of Educational Psychology**, Pearson India

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean score –1+2+3+4+5=15/5
$\bar{x}$**= 3**

B.Sc. PSYCHOLOGY	PART IV: Non-Major Elective (NME) PAPER-2	3 Hrs Per week
Semester – II	**Psychological First Aid**	**Credit 2:**
Code: PSY 1212		MARKS:30

Course Description:

This course aims to develop skills required for providing psychological first aid to the needy. This course will guide the learners to develop skills to become an effective psychological first aid provider.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Understand the concept of Psychological first aid.

CO2: Explain models and approaches in psychological first aid

CO3: Employ PFA techniques in appropriate places.

CO4: Develop the skills of PFA

CO5: Analysis the protocol in Psychological first aid.

UNIT I Introduction

Psychological First Aid: Meaning, Definition, Concept, Need, Importance and Scope

UNIT II Models and approaches

Various Models and approaches in Psychological First Aid.

UNIT III Application of Psychological First Aid

Psychological First Aid: When, Where, Why, Whom and How?

UNIT IV Skills of PFA

Skills of the person who provides Psychological First Aid, Do's and Don'ts in Psychological First Aid.

UNIT V Ethics in Psychological First Aid

Ethics and Protocol in Practicing Psychological First Aid.

Pedagogical Method:

Lecture, PPT, Group discussion, activity and exposure visits.

TEXT BOOK:

WHO (2011). Psychological first aid: Guide for field workers

REFERENCE BOOKS:

1. Australian Psychological Society (2013). Psychological First Aid: An Australian guide to supporting people affected by disaster

2. Vinod Singaravelu (2011). Psychological First Aid: Field workers Guide

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1	1					
CO2		2				
CO3			3			
CO4					5	
CO5					5	

Mean score –1+2+3+5+5=16/5
$\bar{x}$= **3.2**

B.Sc. PSYCHOLOGY	PART IV: Non-Major Elective (NME)	3Hrs Per week
Semester – II	**Society and Psychology**	Credit: 3
Code: PSY 1214		MARKS: 30

Course Description:

This course aims to develop the knowledge about the society and its functions and it also enables the learners to identify the impacts of human behaviour through analysing various norms of the society and culture.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Gain knowledge on society and human mind.
CO2: Understand the process of socialization.
CO3: Apply the learned knowledge in societal concepts.
CO4: Analyze the areas of impacts in behaviour.
CO5: Evaluate the perspectives and attitudes based on the norms and practices.

Unit I: Introduction
Society - meaning and characteristics. Outline on human mind and behavior – Understanding Psychological perspectives.

Unit II: Institutions of Socialization
Institutions of Socialization – Family, economics, religion, education and government.

Unit III: Roles of culture, caste and religion in society
Meaning: Culture, Religion and Caste, Influences in thoughts and behaviour. Honor killing, assaults using religion and caste. Culture and sub culture – impacts.

Unit IV: Impact of media in society
Reality shows, advertisements, films, print media and social networking sites, Influences on human attitude and behavior.

Unit V: Impact of society norms in human behaviour

Understanding of various societal norms, behavioural patterns through learning norms, Attitudes and Perspectives

Pedagogical Method:

Lecture, PPT, Group discussions, activity.

TEXT BOOK:

1. Shankar Rao (2011) Principles of sociology, Tata Macraw Hill, New Delhi.

Reference Books:

2. https://psychology.wikia.org/wiki/Society
3. https://santamariatimes.com/lifestyles/columnist/lynda-gantt-how-does-culture-affect-behavior/article_78b4f192-cb93-511e-9c0d-d1c309320623.html

Mapping of course outcome (COS) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

B.Sc. PSYCHOLOGY	PART IV: LIFE SKILL II	3 Hrs Per week
Semester – II	SKILLS FOR PSYCHOLOGISTS	Credit 2:
Code: PSY 1204		MARKS:30

Course Description:

This course aims to develop skills required for the psychologist. This course will guide the learners which are the skills to be developed to become a psychological professional.

Course Outcome:

At the end of this course, the students will be able to:

CO1: Describe need and importance of skills

CO2: Identify and application of hard skills.

CO3: Development of soft skills

CO4: Analyzing the documentation and profiling skills

CO5: Developing basic counseling skills

UNIT Introduction

Introduction to skills: Difference between skills and Knowledge, Skills – Meaning, definition, Types, Need and importance

UNIT II Hard Skills

Introduction to hard Skills - Computer Skills, Language skills

UNIT III Soft Skills

Introducing soft skills - Communication, Time management

UNIT IV Documentation Skills

Profiling and Case documentation skills

UNIT V Counselling Skills

Basic Counselling Skills- SOLER

PedagogicalMethod:

Lecture, PPT, Group discussion, activity and exposure visits.

TEXT BOOK:

1. Lesley Charnock (2011Basic Counselling Skills. By University of Cape Town

REFERENCE BOOKs:

https://www.bharatskills.gov.in/pdf/EmployabilitNew.pdf

https://bharatskills.gov.in/pdf/E_Books/Employability_Skills_NSQF_1st_sem_Final_English.pdf

http://psscive.ac.in/assets/uploads/ncert_books/Employability_Skills.pdf

Mapping of Course Outcomes (Cos) with Bloom's Taxonomy (K1 to K6)

CO/K	K1 Knowledge	K2 Understand	K3 Apply	K4 Analyze	K5 Evaluate	K6 Create
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Mean score –1+2+3+4+5=15/5
$\bar{x}$**= 3**