Since 1881

THE AMERICAN COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A" CGPA – 3 .46 on a 4 - point scale

MADURAI - 625002

SSR Cycle – 3

Criterion I – Curricular Aspects

1.1. Curriculum Design and Development

Course Outcomes (COs) – Undergraduate

Department of English

Course Outcomes – B.A English

Conversational Skills

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

i. articulate spoken utterances clearly and fluently,
ii. speak simple sentences in English with one another in unpredictable situations,
iii. participate in dyadic communication,
iv. use phatic communion, and
v. employ word-stress and intonation in spoken utterances.

Prose I

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

i. recognizes the prose structure and differentiate them from other basic genre,
ii. trace the different prose styles and Associate them with the period,
iii. examine the nuances of prose texts by interpreting the themes,
iv. differentiate and Appreciate the uniqueness of conventional prose writing, and
v. evaluate and Criticize the prose texts.

Short Story

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

i. trace the basic elements of short stories including plot, character, dialogue, theme, symbol, irony, and setting;

ii. analyse a variety of short stories;
iii. evaluate short stories meaningfully;
iv. illustrate various reflections and instances in short stories with personal experiences; and
v. formulates their ideas/imaginations in written forms.

One Act Play

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

i. explains the dimensions and techniques of the one act play,
ii. differentiate the types of one act plays like Vaudeville, farce, horror, and drawing room comedy,
iii. administer the use of stage properties, scenery and cast members,
iv. compare and contrast the basic elements like character, setting, plot and theme, and
v. analyse different styles of writing like moralistic, humorous, satirical and philosophical.

Word Power

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

i. assesses their present vocabulary range,
ii. grade their understanding of different and difficult words,
iii. recognize the technical terms,
iv. use the vocabulary for professional exams; and
v. employ word power through games.

Pronunciation Skills

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

i. articulates all the vowels and consonants
ii. distinguish between vowels and consonants,
iii. use word accent in their speech,
iv. employ the four major intonation patterns in their speech, and
v. recognizes the discoursal features such elision, assimilation, and juncture.

Film Appreciation

At the completion of the course, students shall learn to

i. distinguishes the various aspects of Films,
ii. interpret the visuals and visualize the text,
iii. analyse cinema as an industry,
iv. locate cinema in social milieu, and
v. evaluates films and write reviews.

Literary Terms and Forms

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

i. determines the purpose of literary studies from humanist, structuralist, and poststructuralist points of view,
ii. distinguish between narrative and lyrical poetry,
iii. discriminate tragedy from comedy, and drama from one act plays;
iv. illustrate the features of prose and non-fictional prose, and
v. summarise the differences in theories of reading literary texts professionally.

Reading & Writing Skills

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

i. practise the reading of simple prose texts silently and fast,
ii. produce their comprehension abilities,
iii. write letter of requests, permission and apology,
iv. write paragraphs with topic sentence and supportive sentences, and
v. writes five-paragraph essays on simple, contemporary themes.

Poetry I: Chaucer to Arnold

By the end of this course, students shall be able to

i. distinguish poetry from the other literary art forms;
ii. analyse the various aspects and elements of poetry with respect to form and content;
iii. interpret Medieval poetry and examine its social setup;
iv. assess the language of poetry with regard to its words and meaning; and
v. develops the ability to write poems on their own.

Fiction I: Eighteenth Century

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

i. understands the development of novel as a literary genre,
ii. examine allegory and satire, and the political contexts,
iii. evaluate the themes and forms,
iv. critique the aspects of the sentimental novel and modes of characterization, and
v. infers the different narrative techniques and themes of a gothic and other forms of novel.

Drama I: Elizabethan to Augustan

On completion of the course, students shall be able to

i. recognizes the social, cultural, historical, political and artistic milieu of the play and the playwright,
ii. distinguish different aspects of drama like theme, plot, characterization, stage craft and rhetoric of theatre,

iii. examine how the themes of tragedy and comedy are treated effectively by Shakespeare and other playwrights,
iv. analyse critically the prescribed plays, and
v. assesses the concept of vision and performance

Spoken English

At the end of this course, students will be able to
i. listen to English discourses with higher comprehension capacity,
ii. speak English in their life situations
iii. use English for practical purpose
iv. express themselves fluently in any unknown circumstances, and
v. defends communicative competence.

History of English Literature

At the end of the Course, students shall be able to
i. illustrate the literary contributions of authors from Old English to the Restoration,
ii. compare and contrast the literary texts and genres of the eighteenth century,
iii. explain the features of the Romantic literature,
iv. estimate the contribution of Victorian literature, and
v. assess the twentieth century literature.

Science Fiction

At the completion of the course, students shall be able to
i. appraises science fiction
ii. differentiate the different types of science fiction: Hard and soft science fiction
iii. express the relationship between science and literature
iv. trace the significance of science fiction in scientific inventions
v. relates science fiction to movies adapted from science fiction

Study Skills

At the end of the course, students will be able to
i. practise healthy study habits and homework habits,
ii. organise their academic skills,
iii. apply time management skills,
iv. explain psychological traits, and
v. use ICT skills

Indian Literature in English

At the end of the course students will be able to
i. articulate the history of Indian Literature in English,
ii. differentiate the characteristics between post and pre-independence Indian Literature,

iii. debate instances and reflections in the texts to relevant issues in the society,
iv. evaluate and appreciate India's rich cultural heritage, and
v. develops critical appreciation based on the understanding of the prescribed texts.

Poetry II: Modern

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

i. distinguishes the basic themes of the Modern poetry and understand the Modern Literary and social Movements
ii. analyse the high diction, sublime poetry of the premier craftsmen of this period
iii. assess the highly intellectualized modern poetry and will appreciate the strange imagery, and the complicated thought
iv. interpret new kind of poetry that introduced new form and style, and
v. discusses more realistic modern poems which focused on the best practices of poets in earlier period and other cultures

Drama II: Modern

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

i. develops a multi-layered understanding of the society, culture, political and artistic milieu of the play and playwright,
ii. examine how exposition, conflicts, climax and denouement or the lack of them are effectively used by the playwright,
iii. analyse how comedy, absurd and farce are treated to comment on society,
iv. explain how the settings and stage directions are crucial in the plot development, and
v. appraises the concept of vision and performance

Fiction II: Nineteenth Century

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

i. understand the various narrative styles adopted by a range of authors– omniscient narrator, multiple plot, round and flat characters, description and exposition.
ii. compare different narrative modes and to learn different types of novels– historical, Romance, social, realist, domestic, provincial, gothic, bildungsroman and the fluctuating borderline among them.
iii. examine socio-political contexts of fictional texts
iv. analyse the thematic concerns such as male-female gender roles, history and politics, class and industrialization, religion and sexuality
v. develops techniques of close reading in terms of novelistic techniques and issues

Critical Reading & Writing

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

i. articulates the links between ideas, determining the importance & relevance of arguments & ideas,
ii. appraise arguments, inconsistencies, and errors in reasoning,

iii. solve problems in a consistent & systematic way, reflect on justification of their own assumptions, beliefs, and values,
iv. demonstrate 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, the language, and the content

Career Skills

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

i. speak and write in English,
ii. practise interview skills,
iii. explain cognitive skills,
iv. produce thinking skills, and
v. understand personal traits

American Literature

On completion of the course, students shall be able to

i. identify the social, cultural, and historical development of both 19 and 20 centuries,
ii. appraise American poetry,
iii. examine thematic organization of the prose works,
iv. evaluate salient features of American fiction, and
v. critically analyse the significant perspective of drama

Translation

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

i. identify the significance and the importance of translation as an art and craft,
ii. estimate theories of translation,
iii. choose different translation techniques and methods,
iv. survey the problems of translation and solve them, and
v. write like a professional translator in the fields like journalism & Mass Communication, Public Administration, and Science & Technology and thus facilitating trans-creations.

Prose II

At the completion of the course, students shall be able to

i. analyse a variety of prose writings using appropriate literary strategies,
ii. illustrate different prose styles & forms such as – descriptive, narrative, epistolary etc,
iii. develop their critical thinking ability in relation to their socio-historic & cultural contexts,
iv. create prose writing in different styles, and
v. apply the acquired prose styles to their academic writing.

21st Century Bookers

On completion of the course, students will be able to

i. examine the history of booker prize and the underlying politics in awarding the prize
ii. appraise the different perspectives of creative writers/their writings
iii. analyse the contemporary society in the globalised world and the depiction of the same by authors from various commonwealth countries
iv. critique novels on the basis of crime, fantasy, humour, tragedy and history, and
v. construct how emotional, physical and contemporary issues that affect human kind are treated effectively by the novelists

Modern Grammar & Usage

At the end of the course, students will able to

i. measure a strong theoretical understanding on Modern grammar,
ii. distinguish between acceptable and inappropriate grammar and usages,
iii. produce free use of expressions in writing,
iv. practise advanced forms of writing, and
v. produce clarity and conciseness on writing

New Literatures in English

At the end of this course students shall be able to

i. explain the historical forces of imperialism and colonialism and their positive/negative impact on erstwhile colonies,
ii. articulate the major themes reflected in literatures of the Invaded colonies,
iii. evaluate literary influences of writers and literary techniques employed in these texts,
iv. critique postcolonial condition in settler colonies particularly in the context of aboriginal experience, and
v. facilitate new interpretations of texts and contexts from Canada and relate to the emerging global trends

Criticism and Approaches

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

i. distinguish literary artifacts with the help of concepts offered by Classical and Renaissance thinkers,
ii. estimate restraint as a virtue under Neoclassicism and reason as giving way to emotion under Romanticism,
iii. evaluate ‘high seriousness’ and disinterestedness as guiding principles in appreciating literature as during Victorian and Modern periods,
iv. assess works of art through Freudian theories of psychology, and
v. negotiate myths and archetypes while reading literary works through Jungian principles.

Fiction III: Modern

At the end of the course, students shall be able

i. understand how the context of early 20th century shaped the literary texts,
ii. evaluate main trends and avant-garde movements in the 20th century: Symbolism, impressionism, Cubism, Dadaism, Surrealism, Expressionism,
iii. analyse themes such as fragmentation, alienation, gender and sexuality, empire, war, art and problem of perception, human psyche, the double, the nature of evil,
iv. summarize modernist techniques in the narratives, and
v. develop critical thinking and close reading of texts.

English for Media

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

i. distinguish between the concept and types of mass communication,
ii. discriminate between the key concepts in language and media,
iii. adapt to media language,
iv. analyse the media language, and
v. apply media reading.

Creative Writing in English

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

i. analyse the concept of creativity and techniques in writing,
ii. distinguish different forms of poetry,
iii. consider plot and differentiate it from story, and characters,
iv. correlate the role of observation in feature and travel writings, and
v. integrate editing and revising skills for better readability of works.

Introduction to Modern Linguistics

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

i. determine the chief theories of human speech,
ii. compare and contrast the various branches of linguistics,
iii. examine the acceptable system of sound and pronunciation,
iv. distinguish between the patterns of sounds, and
v. analyse the modern concepts in theoretical and applied linguistics.

Contemporary English Literature

At the completion of the course, students shall be able to

i. interpret the aesthetic, moral and cultural sensibilities of English literature written after 1980,
ii. examine the relative values and unique aspects of contemporary literature,
iii. analyze the predominant themes of contemporary literature,

iv. estimate the multi-dimensional experiments in subject matter, form and style in the literatures written after 1980, and
v. justify the representative literary pieces of contemporary writers.

English Language Education

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

i. objectively analyze the object of colonial English language policies,
ii. ii. critically evaluate the observations and recommendations of the various
iii. educational reports in Independent India,
iv. relate the various macro-skills and micro-skills to today's needs and contexts,
v. synthesize various approaches and methods of teaching, learning, and assessment;and
vi. express the recent ELT concepts.

Contemporary Tamil Fiction in Translation

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

i. distinguish regional novels and themes related to their regions
ii. consider the issues confronting human beings in urban areas
iii. evaluate the effects of modernity and change on any given place
iv. justify the voice of the marginalized and their quest for dignified life
v. create fiction/short stories influenced by the premises that fiction/ story writers use

Environmental Studies and Literature

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

i. trace the history and development of environmental literary studies as a genre,
ii. prioritize environmental ethics both in life and literature,
iii. infer Deep Ecological elements in nature writing,
iv. connect women with nature and understand their importance, and
v. facilitate environmental awareness among individuals.

English for Placement

At the end of this course, students will be to

i. distinguish the various types and channels of communication,
ii. analyse reading passages in exams,
iii. identify common errors in English and to write error free sentences,
iv. articulate professionally in a work environment, and
v. construct different forms of writing.

Department of French

Course Outcomes – B.A French

Le français élémentaire

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

i. Recall the gender of the nouns.
ii. Use basic foundation of the verbs.
iii. Identify the different types of sentences.
iv. Examine the noun, verb, adjectives, & preposition.
v. Identify the basic knowledge of French grammar.

Le français interactif – I

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

i. demonstrate an accurate understanding of linguistic concepts including phonetics
ii. communicate proficiently and collaborate successfully in day today situations in France.
iii. integrate language proficiencies, intercultural competencies and technology skills
iv. identify the key similarities and differences between their own cultural practices.
v. use the cultural practises in another familiar situations.

L'écoute et la lecture – I

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

i. identify French sounds, sound pattern and syllabification
ii. list and recall the essential vocabulary needed for everyday situations.
iii. read and understand basic documents and texts.
iv. Express their views in short sentences.
v. understand most speech on a familiar topic

La langue et la civilisation françaises – I

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

i. introduce themselves and great one another.
ii. construct interrogative forms.
iii. express their likes and dislikes.
iv. communicate with the help of various activities.
v. examine and access own and others in speaking skills.

Le français intermédiaire - I

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

i. Recall & list different verbs.
ii. Differentiate the tenses.

iii. Communicate & use future tense.
iv. Apply the usage of tenses & Discuss in past tense.
v. Analyse & Make simple sentences.

Le français interactif – II

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

i. communicate effectively and understand without difficulty by a native interlocutor.
ii. practice the complicated tasks such as explaining, interrogating and informing.
iii. identify instances of communication in the circumstances of their own.
iv. express a thorough command of French and its linguistic structures.
v. be aware of the life style of French, festivals of France and role of medias in their life

L'écoute et la lecture – II

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

i. understand complex questions asked in French and make an attempt at giving an answer.
ii. demonstrate good comprehension of written discourse in areas of special interests.
iii. recognize the role of cultural knowledge in understanding written texts.
iv. narrate and describe in past, present and future tense.
v. express themselves in their own words in French

La langue et la civilisation françaises – II

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

i. discover the places and understand the usage of prepositions of places.
ii. demonstrate a significant development in interrogation.
iii. apply the imperative mode.
iv. communicate in the market.
v. appreciate French gastronomy

La phonétique française

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

i. recall and identify IPA (International Phonetic Alphabets)
ii. classify different sounds and accents unique to the French language.
iii. pronounce each word more efficiently with the knowledge whether or not to pronounce certain letters.
iv. use proper intonations, differentiate difficult sounds and reproduce them.
v. Examine literary or normal text proficiently and articulate well in French.

Les régions de France

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

i. locate the regions and its prefectures
ii. infer the administrative structure of France
iii. appreciate the regions and its gastronomy and famous personalities.
iv. familiarize with national, religious and local festivals of the country
v. adapt an analysis of French realities

L'expression écrite-I

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

i. Find invitation cards and to fill the forms
ii. Extend greetings
iii. Construct sentences about information and give his own opinion
iv. Analysing and narrating a situation in past
v. Construct a story using his own words

Le français accéléré

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

i. Name the basic noun and recall the vocabulary
ii. Use the vocabulary in the right situation
iii. Apply appropriate usage of noun
iv. Discover the exact noun forms and its usage
v. Construct and use the grammatically correct sentences

Le français parlé – I

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

i. Understand basic phrases and introduce oneself.
ii. Respond in basic French and describe others.
iii. Demand and give directions and express emotions in French.
iv. identify and appreciate different opinions.
v. compare and contrast likes and dislikes.

L'initiation à la Traduction

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

i. familiarize with the seven procedures of translation.
ii. identify the different terminologies in French.
iii. examine appropriate lexical and grammatical resources efficiently
iv. demonstrate effective bi-lingual and bi-cultural practice with in their work
v. apply professional standards in their working atmosphere.

L'histoire de France

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

i. identify the historical figures who have ruled France beginning from the time of middle ages until leading to V Republic.
ii. interpret the achievements and failures of monarchy and aristocracy which has affected the lives of common people, shaping the history of France.
iii. be aware of French historical events and state their opinions on how it has affected the current civilisation, politics and Geography of the country.
iv. Compare French and Indian histories.
v. familiarize with and analyse the past society and culture of France.

L'expression écrite-II

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

i. Relate the narration and dialogue
ii. Rephrase the media communication and advertisement
iii. Build his idea in French writings and rephrase it
iv. Discover new recipes and give direction in French
v. Appraise the CV, letter, covering letter

Le cinéma français

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

i. display knowledge of French directors and actors
ii. narrate and interpret the story.
iii. extend the knowledge on socio-cultural elements of France
iv. appreciate and compare the contemporary movies
v. compare and familiarize with French film festivals and other awards

Le français parlé – II

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

i. Narrate past events using past tense.
ii. Give suggestions and do comparisons.
iii. Justify reasons and know to accept/reject invitation.
iv. Criticize or express disapproval.
v. Offer compliments, advices and help.

La pratique de la Traduction

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

i. identify and analyse different types of texts in French and in English
ii. familiarize with commercial and technical terms in French and English
iii. appreciate French proverbs and find their equivalent in their native language
iv. find a solution while translating the different tenses and metaphors in French
v. apply theories, methodologies and knowledge in their contextual translation.

Le Roman français

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

i. identify different genres of literary text in French
ii. familiarize with writers of different centuries in French
iii. Interpret and explain novels
iv. Demonstrate knowledge of the history or culture of the French
v. Analyse the structure and the content of the text

Le français des affaires

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

i. Recall the basic facts regarding business
ii. Classify the vocabulary related to office
iii. Construct the business time table
iv. Classify the business etiquette
v. Evaluate the business lifestyle

La musique française: Chanson

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

i. Recognise French music and songs.
ii. Infer and relate music from different periods of French culture and society.
iii. differentiate music and songs by different singers and musicians.
iv. identify and appreciate different genres in French music.
v. discover the francophone songs and their style of writing.

La poésie française

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

i. Remember and recall the important poets and their movements in French literature.
ii. appreciate French poems and figures of speech.
iii. Interpret and explain poems using analytical skills and linguistic proficiency.
iv. identify the theme, rhythm and musicality of French poems.
v. Compare and contrast the differences in culture by reading French poems.

Le théâtre français

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

i. identify French major playwrights such as Molière, Beaumarchais, and Eugene Ionesco.
ii. explore how French theatre has evolved through different periods of French literary history
iii. classify different genres/movements of French theatre found in each century: beginning from 17th century to 20th century.
iv. summarize and paraphrase French plays.

v. analyse the styles of different playwrights and the socio-historical background of French culture.

La France contemporaine

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

i. familiarize and list the current affairs of France.
ii. explore French people's mindset regarding family life, politics, sports, education etc.
iii. explain French political and educational system and how it structures the rest of the French society.
iv. compare and appreciate the Indian and French cultures.
v. utilise the information if they decide to pursue their higher studies in France.

Le français de l'hôtellerie et du tourisme

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

i. Recall the purpose of hotel industry and tourism.
ii. Prepare and demonstrate hospitality.
iii. Use and apply linguistic components with precise grammatical structures used by professionals in hotel industry.
iv. Apply oral skills used in travel agencies and catering services.
v. Build interaction with the tourists

French

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

i. Classify the purpose of environmental studies;
ii. interpret the agriculture in France and in India;
iii. discuss the state of wildlife in France and in India;
iv. identify the methods followed for protection of wildlife; and
v. compare and contrast the eco-friendly activities and eco consciousness in France and in India.

General French – I

Upon successful completion of this course the students will be able to

i. Communicate fluently using the four basic language skills of speaking, reading, writing and listening.
ii. classify different sounds and accents unique to the French language
iii. apply their vocabulary and grammar skills by understanding the structures of the language
iv. Appreciate the beauty of the language learning to speak and write with fluency and accuracy in every day situation.
v. Familiarize with the French culture and society.

General French –II

Upon successful completion of the course, the students will be able to

i. practice their linguistic skills by a deeper understanding of the language structure and the vocabulary.
ii. Apply the language skills on a range of everyday situations.
iii. recognize routine information and get a grasp of the practical life in France.
iv. appreciate the cultural background of France
v. compare the difference between formal and informal writing using appropriate format

Advanced French – I

Upon successful completion of this course the students will be able to

i. Use the direct and indirect object pronouns and to write a recipe in French.
ii. Write sentences using prepositional pronouns.
iii. Narrate a past event using simple past and past continuous
iv. Appreciate a French poem and to communicate a past in past action.
v. Write a résumé of a poem and to use the future tense.

Advanced French –II

Upon successful completion of the course, the students will be able to

i. Prepare one's Curriculum Vitae in French
ii. Utilise the simple relative pronouns.
iii. Write an informal invitation and describe a monument in France.
iv. appreciate XIX century French literature
v. Write an informal letter and to summarize a French fable.

Department of Hindi

Course Outcomes – B.A Hindi

हद गय और याकरण

(Hindi Prose and Grammar)

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

i. familiarizes with vocabulary in day today life.
ii. develop the communication in different situation.
iii. summarize the various aspects of Hindi prose.
iv. utilize and apply the basic Hindi grammar and practiced to use different types of tenses in Hindi language.
v. identifies and comprehend simple passages.

सामाय नबध
(Samanya Nibandh)

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

i. understands the basic concepts of essays.
ii. classify the different types of essays.
iii. strengthen the art of writing essays.
iv. gain knowledge about social and moral essays.
v. utilize knowledge about paragraph writing descriptive argumentation, narrative and expository.

सामाय याकरण
(Samanya Vyakran)

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

i. understands the basic Hindi grammatical terms.
ii. read, write, and speak in Hindi without grammatical mistakes.
iii. identify prefix and suffix in Hindi and will be used in their higher level course. .
iv. utilize the translation methodology in day today life.
v. applies the knowledge to write the formal and informal letters.

कामकाजी हद
(Kamkaji Hindi)

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

i. know about the interaction between the language and society.
ii. utilize the knowledge of Technical words
iii. enhance their conversational fluency as well as accuracy.
iv. understand the differentiate between formal and informal letters in Hindi and correctly will be used by them.
v. write messages, initiations, greetings, short paragraphs, letter etc.

हद भाषा का उव और -वकास
(Hindi Bhasha ka Udhbhav aur Vikas)

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

i. understand the gradual origin development of the Hindi language
ii. identify the speech sounds of Hindi “Devanagri Lipi” (the script used for Hindi) .
iii. classify the dialects of Hindustani.
iv. understand the relationship between languages.
v. apply the knowledge to write in Hindi using correct tenses.

कायालय हद और अनुवाद
(Official Hindi and Translation)

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

i. follow the speech rules and understand the types of words.

ii. familiarize with the administrative words in Hindi.
iii. understand the knowledge about administrative and technical terms in Hindi.
iv. apply the methodology of formal and informal letters.
v. utilize the knowledge of simple translations in daily life

कहानयाँ
(Kahaniyan)

At the completion of this course, the students will be able to
i. identify the elements of short stories.
ii. know the moral from the different types of stories in Hindi language.
iii. write the stories in their own style.
iv. analyze short stories for their structure and meaning, using correct terminology
v. understand the moral in each and every moments from their practical life

उ$कृ&ठ याकरण
(Uthkrishta Vyakran)

At the end of the course, students will be able to
i. understand the basic Hindi grammatical terms.
ii. select and construct new words using proper Upasarg and Prathyey.
iii. familiarize with the different types of Karak appropriately.
iv. utilize and apply the basic Hindi grammar and practiced to use different types of tenses in Hindi language.
v. identify and comprehend simple passages.

आदकाल
(Aadhikal)

At the end of the course the students will be able to
i. classify the Hindi literature.
ii. understand with clear idea about ancient age.
iii. identify the eminent Hindi writers and their writings in Aadhikal.
iv. know the relation between society and literature at that period.
v. analyze and explain about the Aadhikal literature.

हद साह$य का इतहास
(Hindi Sahithya ka Ithihas)

At the completion of this course, the students will be able to
i. understand the importance of Hindi literature.
ii. identify the different classification of Hindi literature.
iii. classify the features of the major literary genres.
iv. importance theoretical terms and concepts.
v. familiarize the students with different period in the Hindi literature.

हद साह$य का इतहास
(History of Hindi Literature)

At the completion of this course, the students will be able to
i. understand the importance of Hindi literature.
ii. classify the Hindi literature
iii. identify the features of Adikal, Bhaktikal, Ritikal and Adhunikkal.
iv. familiarize with the eminent Hindi writers and their famous writings of each period.
v. demonstrate their understanding able to draft, re-draft, and edit with appropriate writing.

क+,यूटर हद
(Computer Hindi)

At the completion of this course, the students will be able to
i. understand the basic concepts of computer.
ii. utilize computer language and programme.
iii. practiced well about the Unicode font (Hindi) typing.
iv. apply the techniques that are being widely used in search engines, digital libraries.
v. understand the processing of computer.

नाटक और एकांक0
(Natak aur Ekkhangki)

At the end of the course, students will be able to
i. Explain the origin and evolution of Hindi One act play and Drama
ii. Identify notable works in Drama and eminent drama writers in Hindi.
iii. Visualize and interpret Sharkar shesh's drama Ek Aur Drawnacharya.
iv. Read, interpret, evaluate and experiment the adaptation of one act plays for stage. (Fewer properties, Scenery, and Cast members)
v. Discuss one act play and writers.

सामाय प2 लेखन
(Samanya Patra Lekhan)

At the completion of this course, the students will be able to
i. understand the basic skills of letter writing.
ii. identify the types of formal letters.
iii. familiarize with the types of informal letters.
iv. gain the knowledge about the important points of the structure of best letter writing.
v. utilize idea to write the letters in their own style.

नगुण भि6त काल
(Nirgun Bhakthi Kal)

At the end of the course, students will be able to -
i. identify the different classification of Hindi literature

ii. understanding the relation between society and literature at Nirgun Bhakthikal.
iii. classify the features of the Bhakthikal.
iv. familiarize with the eminent Hindi writers and their famous writings of each period.
v. compare the eminent poets of Gyana margi and Prema margi

हंद भाषा का इतहास - सामाय प8रचय

(Hindi Bhasha ka Ithihas- Samanya parichya)

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

i. understand the origin of Hindi language and its literature
ii. classify the dialects of Hindustani.
iii. identify the speech sounds of Hindi "Devanagri Lipi" (the script used for Hindi)
iv. Analysing the development of Khadiboli Hindi.
v. apply the knowledge, try to own write in Hindi.

लघुकथा, नाटक, और कायशा>2

(Short stories, Drama and Poetics)

On completion of the course, the students will be able to

i. Understanding the poems of medieval poets Kabir and Tulsi.
ii. know the basic elements of short stories.
iii. know the relation between the socio-cultural condition of a society and the short stories
iv. identify and differentiate the types of Hindi Poems.
v. familiarize the students with poetic words Ras, Chand and Alankar in Hindi.

भाषा -व?ान - सामाय प8रचय

(Bhasha Vighyan – Samanya Parichya)

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

i. understand the nature of language and importance of language study.
ii. analysis the language area like phonology, morphology, syntax, etc.
iii. identify the speech sounds of Hindi "Devanagri Lipi".
iv. familiarize with the linguistic family in Hindi and different parts of the linguistic.
v. apply the knowledge, try to speak in Hindi with correct pronunciation.

सगुण भि6त काल

(Sagun Bhakthi Kal)

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

i. identify the different classification of Hindi literature
ii. understanding the relation between society and literature at Bhakthikal.
iii. familiarize with the eminent Hindi writers and their famous writings of Ram Bhakthi
iv. familiarize with the eminent Hindi writers and their famous writings of Krishna Bhakthi.
v. compare Ram Bhakthi and Krishna Bhakthi.

कायालय हंद
(Karyalaya Hindi)

At the completion of this course, the students will be able to
i. understand the meaning and principles of drafting.
ii. identify the types of drafting.
iii. get more knowledge about the drafting to write in Hindi.
iv. apply the methodology of formal and informal letters.
v. utilize the knowledge about the administrative words, technical words and noting and will write themselves all these words in Hindi in their official work.

रतकाल
(Rithi Kal)

At the completion of this course, the students will be able to
i. understanding the relation between society and literature at Rithikal.
ii. classify the types of Rithikal.
iii. identifying the eminent Hindi writers and their writings in Rithikal.
iv. compare the eminent poets of Rithipadha, Rithisiddha, and Rithimuktha.
v. compute the specialities of Rithikal poets and post medieval period.

भारतीय कायशा>2 - सामाय प8रचय
(Bharathya Kavyashastra - Samanya Parichya)

At the end of the course, students will be able to -
i. identify, describe and discuss the basic concepts of Indian poetics.
ii. list, describe and illustrate Ras and its types.
iii. identify and compare the types of Chand.
iv. assess the types and specialties of Alankar.
v. discuss the Introduction of western poetics and specialties of western poems and its style.

उपयास
(UPANYAS)

At the end of the course, students will be able to -
i. know the origin and development of the Hindi Upanyas.
ii. identify elements of the Hindi Upanyas.
iii. discuss the different periods of upanys in Hindi sahithya.
iv. analyse the different writing style of Upanyaskar.
v. respond to the social, ethical, political, cultural, environmental, and moral issues in "DHUD" Upanyas. gain the knowledge about theme.

आधुनक काल का सामाय प8रचय
(Adhunik kal ka Samanya Parichay)

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

i. get in-depth knowledge of Adhunikkal.
ii. classify different aspects of sahithya in Adhunikkal
iii. familiarize with bharathendu yugin sahithya
iv. analyse the writing skills of Chayavadi poets in Adhunik kal
v. identify the Pragathivad and Proyogvad sahithya of Hindi.

अनुवाद Aसeाेंत
(Anuvad Siddhanth)

At the end of the course students will be able to
i. understand the basic concepts of translation.
ii. classify the theories and principles of translation
iii. identify the different types of translation used in day today life.
iv. acquire the knowledge literary translation and its difficulties.
v. familiarise with the characteristics of translators.

नबंध साह$य
Nibandh Sahithya

At the completion of this course, the students will be able to
i. understand the evolution of sahithya nibandh.
ii. apply, assess, develop, examine, find, illustrate, interpret and relate the various topics in the Essay collection.
iii. familiarise with the essential elements of Hindi Nibandh.
iv. get the knowledge of famous essay writers.
v. acquire the deep knowledge of famous essay writer Dr. Ramchandra Sukla

नई क-वता
(Nayee Kavitha)

At the end of the course, students will be able to
i. know about the growth of modern poetry.
ii. identify the classification of modern poets.
iii. understand the ancient and modern poetry.
iv. get more knowledge about the specialties of modern poetry.
v. interest to write the poem in their own style.

नारवाद - सामाय प8रचय
(Narivad - samanya parichay)

At the completion of this course, the students will be able to
i. understand the concept of feminism.
ii. familiarize with the Feminism in Hindi literature.
iii. get the idea of famous female writers in Hindi.
iv. gain knowledge about Feminism in fiction.
v. analyse the empowerment of women in all Hindi literature.

महाकाय और खंडकाय

(Mahakaviya and Kandha kaviya)

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

i. explain the origin and evaluations of epic and poetry volume.
ii. identifying the epics and famous epics writers and their creations.
iii. visualize and interpret of jaisankar Prasad ‘s epic Kamayani.
iv. understanding the Khanda kavya and famous writers.
v. gain knowledge about the Panchavatti .

वशेष साह$यकार - Fेमचंद

(vishesh sahithyakar premchand)

At the end of the course students will be able to

i. know about the biography of munshi premchand.
ii. acquire idea of premchand’s stories and dramas.
iii. gain knowledge about the famous novels of premchand.
iv. understand about the literary status of premchand.
v. get clear knowledge about history of premchand.

पयावरण अBययन

(Environmental Studies)

At the end of this course students will be able to

i. identifies the different types of environment problems.
ii. analyse the problem and solution of pollution.
iii. understand the concepts of different types of pollution.
iv. get awareness about plastic free environment.
v. knows about the environmental pollution and how to get rid of it.

Department of Commerce (IT)

Course Outcomes – B.Com - Information Technology

CIT 1251	அலுவலக நடைமுறைகள்	3 Hrs / 2 Cr

வெளிப்பாடுகள்

i. அலுவலகத்தின் அமைப்பு முறைகள் மற்றும் செயல்பாடுகளை அறிந்து கொள்தல்.
ii. அலுவலகத்தில் பயன்படுத்தப்படும் உபகரணங்கள் அல்லது இயந்திரங்களைப் பற்றி தெரிந்து கொள்வதோடு அவற்றை கையாளுதலை பற்றி தெரிந்து கொள்தல்.
iii. அலுவலக கடிதப் போக்குவரத்து மற்றும் கூட்டங்களை நடத்துதல் பற்றி அறிதல்.
iv. ஆவணங்களை தயாரித்தல் மற்றும் அவற்றை கோப்பிலிடுதல் முறைகளை அறிந்து கொள்தல்.
v. கூட்டங்களை நடத்துதல் மற்றும் அவற்றிற்கான அறிக்கைகளை தயாரித்தல்.

Financial Accounting – I

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

i. Identify basic accounting concepts, prepare accounts under single entry system and reconcile cash and bank balances.
ii. Interpret transactions on bill of exchange and apply different techniques of calculating average due date and interest under account current method.
iii. Compare the methods of recording depreciation and calculate the amount of loss under insurance claim.
iv. Determine the accounting treatment in the books of consignor and consignee and prepare accounts of joint venture.
v. Integrate the accounting procedure for various non-profit organisations.

Business Communication

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

i. Identify various structures of a business letter and the occasions for drafting letters such as an enquiry about the product, provide an offer, order and status enquiries.
ii. Paraphrase sales letters, collection letters and reminders, complaints, claims and adjustments.
iii. Appraise applications for situation vacant.
iv. Diagnose different Modern Communication methods.
v. Prepare corporate correspondence, minutes, reports and office notes

Principles of Marketing

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

i. Define the importance of marketing and market segmentation.
ii. Explain a new product development and the advantages of packaging.
iii. Predict the price of a product.
iv. Examine the need of sales promotional techniques.
v. Appraise the use of e-marketing and consumer protection.

Business Economics

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

i. Describe the nature of business economics.
ii. Apply demand analysis to relevant economic issues.
iii. Examine the production and cost function.
iv. Compare price under various market conditions.
v. Appraise the methods of measuring national income.

Office Practices

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

i. Describe the functions of an office.
ii. Interpret appropriate office equipment's in the administration of an office.
iii. Prepare business documents and conduct meetings.
iv. Apply various methods of filing and media of communication.
v. Relate the importance of writing of report

Consumerism

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

i. Identify the importance of consumer behaviour in the buying process.
ii. Describe the impact of sales promotion on consumer decision making.
iii. Explain the scope of consumerism.
iv. Infer with the consumer movements in India.
v. Apply the legislations prevailing for the protection of consumers.

CIT 1252 செயலர் பணிமுறை **3 Hrs / 2 Cr**

வெளிப்பாடுகள்

i. நிறுமத்தின் தன்மைகள் மற்றும் வகைகளைப் பற்றி அறிந்து கொள்தல்.
ii. நிறுமத்தை அமைப்பதற்கான முறைகள் மற்றும் நிறுமச் செயலரின் கடமைகளையும், பொறுப்புகளையும் தெரிந்து கொள்தல்.
iii. நிறுமக்கூட்டங்களை நடத்தும் முறை மற்றும் தீர்மானங்களை நிறைவேற்றும் முறை பற்றி அறிந்து கொள்தல்.
iv. இயக்குநர்களின் நியமனம், அதிகாரங்கள், பணிகள் மற்றும் பதவி நீக்கம் பற்றி அறிந்து கொள்தல்.
v. நிறுமக் கலைப்பு முறைகள் மற்றும் கலைப்பாளர்களின் அதிகாரங்களைப் பற்றி தெரிந்து கொள்தல்.

Financial Accounting -II

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

i. Define the concept of Branch Account and the scope of Departmental Accounting.

ii. Compare the Merits and Demerits of Hire Purchase and Royalty.
iii. Appraise the method of maintaining partners' capital account and observe the proper accounting treatments during admission.
iv. Assess various accounts prepared during retirement and death.
v. Evaluate the concept of Dissolution of Partner and Partnership Firm.

Banking Theory Law and Practice

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

i. Identify the relationship between banker and customer.
ii. Paraphrase the banking system in India and the role of RBI in development of Indian Economy,
iii. Predict the legal significance of pass book, different types of negotiable instruments and investment policies of bank.
iv. Ascertain the implications of crossing, material alteration and endorsement
v. Appraise the use of value-added banking services.

Auditing

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

i. Interpret the conceptual underlying theory of auditing.
ii. Apply the vouching procedure of cash and credit transactions, impersonal ledgers.
iii. Predict the duties of an auditor regarding the verification and valuation of assets and liabilities.
iv. Appraise the norms of appointment and removal of an auditor and the conduct of audit in limited companies.
v. Compile audit reports and apply audit processes in non-trading organisation and in computerised environment.

Business Environment

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

i. Identify the impact of business environment on business decisions.
ii. Illustrate the effects of government policy on the economic environment.
iii. Predict the legal framework on the regulation of business entity.
iv. Assess of the social responsibility of business.
v. Evaluate the pros and cons of New Technology Policy of India.

Principles of Investment

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

i. Describe the fundamentals of investment.
ii. Distinguish various investment avenues.
iii. Diagnose the relationship between risk and return.
iv. Explain the functions of primary market and secondary market.
v. Apply the powers of SEBI in protecting investor's interest.

Business Organisation

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

i. Identify the objectives of business.
ii. Describe about sole proprietorship and partnership.
iii. Explain the advantages and disadvantages of Joint Stock Company
iv. Paraphrase about the types of cooperative enterprises.
v. Examine the ownership and management of public utilities and objectives of public enterprises.

CIT 2201 **அலுவலக மேலாண்மை** **3 Hrs / 2 Cr**

வெளிப்பாடுகள்

i. அலுவலகத்தின் செயல்பாடுகள்,அமைப்புமுறைகள் மற்றும் அன்றாட நடவடிக்கைகளை தெரிந்து கொள்ளுதல்.
ii. அலுவலகத்தின் பணிப்போக்கு, அதிகாரத்தை பரவலாக்குதல் மற்றும் வளமைகளை தயாரித்தல்.
iii. அலுவலகத்தின் இடஅமைவு: அமைப்புதிட்டத்தை தேர்ந்தெடுத்தலோடு பணிக்கேற்ற சூழ்நிலையை ஏற்படுத்துதல்.
iv. அலுவலகத்தின் கடிதபோக்குவரத்து: பதிவேடுகள் ஆகியவற்றை தயாரித்தல் மற்றும் கையாளுதலை அறிந்து கொள்ளுதல்.
v. கோப்பீட்டு முறைகளை அறிந்துகொண்டு அதை செயல்படுத்துதல்.

Partnership Accounting

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

i. Describe the importance of partnership firm in the business environment
ii. Ascertain the method of maintaining partners' capital account.
iii. Determine the proper accounting treatments during admission, retirement and death of a partner.
iv. Appraise the accounting procedure of amalgamation of firms.
v. Critique the methods of dissolution of firms and settlement of accounts; Sale of partnership firms to company.

Business Law

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

i. Describe the concepts of business law.
ii. Discriminate with the basic frame work of the law relating to Indemnity, Guarantee and Surety
iii. Apply recent amendments, rules, and regulations related to settling industrial disputes with relevant case law.

iv. Relate the Information technology act 2000 in modern business.
v. Evaluate Right to Information Act.

Business Intelligence System

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

i. Explain the major frameworks of computerized decision support system
ii. Interpret data warehousing, data marts, ERP, Current State of affairs & CRM
iii. Develop strategic and tactical business intelligence capabilities by adapting the appropriate technology and software solutions.
iv. Design User interfaces, Querying and reporting tool kits.
v. Assess enhancing and modifying data access, business intelligence dashboard and OLAP

Visual Basic

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

i. Paraphrase with visual basic anatomy and philosophy of VB.
ii. Apply operators, constants and arrays in VB.
iii. Judge event-driven program execution flow control in Visual Basic programming, with awareness of loops to do repetition.
iv. Compose intrinsic controls for form design.
v. Develop application using menus and popup menus, understanding of database access and manage databases.

CIT 2202 காப்பீடு - கோட்பாடுகளும் நடைமுறைகளும் 3 Hrs / 2 Cr

கற்றல் வெளிப்பாடு:

i. காப்பீட்டின் வரலாறு,முக்கியத்துவம் மற்றும் அதன் வகைகளைப் பற்றி தெரிந்து கொள்ளுதல்.
ii. காப்பீடு செய்வதற்கான வழிமுறைகளை அறிந்து கொள்ளுதல் மற்றும் அதனை பின்பற்றுதல்.
iii. முனைமம் கணக்கிடுதல் - வகைகள், இறப்புவீதம் - மதிப்பீடு, நிதிமுதலீடு, முதலீட்டின் கோட்பாடுகள்
iv. ஆயுள் பத்திரம் மற்றும் முன்மொழி பத்திரம் எடுப்பதற்கான செயல்முறைகள், இந்திய ஆயுள் காப்பீட்டுகழகத்தின் தற்போதைய நிலையை அறிந்து கொள்ளுதல்
v. தீ காப்பீடு மற்றும் கடல்சார் காப்பீட்டின் பலவகையான பத்திரங்களை அறிந்து கொள்ளுதல்.

Corporate Accounting

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

i. Solve issue and redemption of shares and debentures.

ii. Diagnose the profits prior to incorporation, underwriting of shares and Rights issue.
iii. Develop final accounts of a company.
iv. Assess account for amalgamation, absorption, internal and external reconstruction.
v. Extend liquidation of corporate entities in compliance with IFRS

Corporate Law

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

i. Paraphrase about The Companies Act and its significance rules and governance of a Joint Stock Company in India.
ii. Determine the process of issue, transfer and transmission of shares.
iii. Plan various meetings and appointments, liquidation of company and alteration of capital.
iv. Examine management and disclosure of NPA in Banks and insurance companies.
v. Evaluate the process of obtaining patents.

Computer Networking

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

i. Describe about network fundamentals, network topology and compare layers
ii. of OSI and TCP/ IP protocols.
iii. Apply DLL and control
iv. Assess network layer and switching concepts by apply IP Datagrams, address, Ascertain the application of the transport layer for real time applications.
v. Design real time applications viz. DNS, SMTP, WWW, SNMP and securities

Programming with C

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

i. Identify the logic of the programming and to write the algorithm for developing program using operators.
ii. Design, implement, test and debug programs that use the statements if and loops.
iii. Prepare, execute, test and debug programs that use arrays and string.
iv. Compile, write, use functions to implement function calls, parameter passing options and to inscribe c programs using structure and union.
v. Apply C programs using pointers to allocate memory using dynamic memory management functions, to show input and output of files in C and command line arguments.

Cost &Management Accounting

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

i. Explain the fundamentals of cost accounting system and construct cost statement.
ii. Compute material levels, prepare stores ledger and adopt various systems of wage payment.

iii. Solve allocation, apportionment and reapportionment of overheads and apply techniques in marginal costing.
iv. Examine the principles of job order, batch, process, contract and services costing.
v. Compile variable cost variances and fixed cost variances

Assessment of Income Tax

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

i. Describe about basic concepts, terminologies and residential status of an assessee.
ii. Compute the income under the heads Salary, House property and other sources.
iii. Explain the powers and responsibilities of Income Tax Authorities.
iv. Conclude the assessment procedures and methods of filling Income Tax Returns.
v. Assess the role of PAN in business and computation of Tax Deducted at Source

Business Data Processing System

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

i. Prepare and manipulate data.
ii. Develop different types of documents and templates.
iii. Apply and edit basic excel spreadsheets, formulas and charts.
iv. Diagnose database models such as RDBMS and ORDBMS.
v. Compile SQL commands for data manipulation.

Marketing Research

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

i. Describe the scope and managerial importance of marketing research and agencies.
ii. Examine the various methods and process of marketing research.
iii. Conclude the basic methods of collecting and processing of data.
iv. Discriminate both qualitat
v. ive and quantitative data
vi. Design research reports with the application of MIS.

Tourism & Hospitality Management

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

i. Describe the activities and working of hotel industry
ii. Apply skills in the functioning of hotels.
iii. List the duties and responsibilities of housekeeping department.
iv. Determine the development of tourism industry.
v. Examine the impact of tourism in Indian economy

Financial Management & Control

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

i. Explain the traditional and modern approaches of financial management.

ii. Compute the various types of cost of capital.
iii. Apply the various theories of capital structure.
iv. Deduce decisions on dividend distribution.
v. Develop knowledge in managing stock, cash and receivables

Investment Management

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

i. Describe the terminologies, objectives, principles and the process of investment.
ii. Compare the various investment avenues and financial instruments.
iii. Evaluate the riskiness of a portfolio position and find the relationship between risk and return.
iv. Examine the mechanics of trading in securities market.
v. Determine the statutory and legislative measures for the functioning of securities market and administrative bodies like SEBI.

Net Programming

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

i. Identify .NET framework and its features.
ii. Examine different data types, decision statements and dialogue boxes
iii. Explain the architecture of ADO.NET.
iv. Create dynamic websites using ASP.NET.
v. Apply SOAP with XML, Visual Studio and .NET framework.

Project Work

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

i. Identify the problem for research.
ii. Prepare questionnaire for collection of data.
iii. Analyse the collected data using statistical tools and techniques.
iv. Find out the solution to the problem.
v. Prepare project report

International Marketing

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

i. Describe the importance of international marketing.
ii. Ascertain the environmental opportunities and challenges to international marketing.
iii. Predict positioning of product and selection of intermediaries in international market.
iv. Apply pricing and promotional strategies in international trade.
v. Examine the documentation procedures and incentives in relation to export

Environmental Studies

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

i. Interpret the importance of environmental studies and methods of conservation of natural resources.
ii. Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.
iii. Predict the sources, environmental effects and control measures of various types of pollutions.
iv. Examine the appropriate methods for waste management.
v. Analyse social issues and legal provision and describe the necessities for Environmental Act.

Department of Commerce (CA)

Course Outcomes – B. Com - Computer Application

CMC 1251 **அலுவலக நடைமுறைகள்** **3 Hrs / 2 Cr**

வெளிப்பாடுகள்

i. அலுவலகத்தின் அமைப்பு முறைகள் மற்றும் செயல்பாடுகளை அறிந்து கொள்தல்.
ii. அலுவலகத்தில் பயன்படுத்தப்படும் உபகரணங்கள் அல்லது இயந்திரங்களைப் பற்றி தெரிந்து கொள்வதோடு அவற்றை கையாளுதலை பற்றி தெரிந்து கொள்தல்.
iii. அலுவலக கடிதப் போக்குவரத்து மற்றும் கூட்டங்களை நடத்துதல் பற்றி அறிதல்.
iv. ஆவணங்களை தயாரித்தல் மற்றும் அவற்றை கோப்பிலிடுதல் முறைகளை அறிந்து கொள்தல்.
v. கூட்டங்களை நடத்துதல் மற்றும் அவற்றிற்கான அறிக்கைகளை தயாரித்தல்.

Financial Accounting – I

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

i. Identify basic accounting concepts, prepare accounts under single entry system and reconcile cash and bank balances.
ii. Interpret transactions on bill of exchange and apply different techniques of calculating average due date and interest under account current method.
iii. Compare the methods of recording depreciation and calculate the amount of loss under insurance claim.
iv. Determine the accounting treatment in the books of consignor and consignee and prepare accounts of joint venture.
v. Integrate the accounting procedure for various non-profit organisations.

Business Communication

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

i. Identify various structures of a business letter and the occasions for drafting letters such as an enquiry about the product, provide an offer, order and status enquiries.
ii. Paraphrase sales letters, collection letters and reminders, complaints, claims and adjustments.
iii. Appraise applications for situation vacant.
iv. Diagnose different Modern Communication methods.
v. Prepare corporate correspondence, minutes, reports and office notes.

Principles of Marketing

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

i. Define the importance of marketing and market segmentation.
ii. Explain a new product development and the advantages of packaging.
iii. Predict the price of a product.
iv. Examine the need of sales promotional techniques.
v. Appraise the use of e-marketing and consumer protection.

Business Economics

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

i. Describe the nature of business economics.
ii. Apply demand analysis to relevant economic issues.
iii. Examine the production and cost function.
iv. Compare price under various market conditions.
v. Appraise the methods of measuring national income.

Practical Banking

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

i. Recite the relationship between the banker and the customer
ii. Paraphrase the banking system in India
iii. Relate the legal provisions related to Pass Book, Bank Loans and Advances
iv. Handle Cheque in a proper manner with crossing and endorsement
v. Evaluate the various E-banking Services

Financial Markets

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

i. Explain about the financial markets and instruments
ii. Describe money market and capital market
iii. Relate the procedure for listing of companies in the Stock exchanges
iv. Differentiate the alternative investment avenue i.e., The Mutual funds
v. Predict the Functions and Powers of SEBI

CMC1252 செயலர் பணிமுறை **3 Hrs / 2 Cr**

வெளிப்பாடுகள்

i. நிறுமத்தின் தன்மைகள் மற்றும் வகைகளைப் பற்றி அறிந்து கொள்தல்.

ii. நிறுமத்தை அமைப்பதற்கான முறைகள் மற்றும் நிறுமச் செயலரின் கடமைகளையும், பொறுப்புகளையும் தெரிந்து கொள்தல்.

iii. நிறுமக்கூட்டங்களை நடத்தும் முறை மற்றும் தீர்மானங்களை நிறைவேற்றும் முறை பற்றி அறிந்து கொள்தல்.

iv. இயக்குநர்களின் நியமனம், அதிகாரங்கள், பணிகள் மற்றும் பதவி நீக்கம் பற்றி அறிந்து கொள்தல்.

v. நிறுமக் கலைப்பு முறைகள் மற்றும் கலைப்பாளர்களின் அதிகாரங்களைப் பற்றி தெரிந்து கொள்தல்.

Financial Accounting -II

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

i. Define the concept of Branch Account and the scope of Departmental Accounting.
ii. Compare the Merits and Demerits of Hire Purchase and Royalty.
iii. Appraise the method of maintaining partner's capital account and observe the proper accounting treatments during admission.
iv. Assess various accounts prepared during retirement and death.
v. Evaluate the concept of Dissolution of Partner and Partnership Firm

Banking Theory Law and Practice

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

i. Identify the relationship between banker and customer.
ii. Paraphrase the banking system in India and the role of RBI in development of Indian Economy,
iii. Predict the legal significance of pass book, different types of negotiable instruments and investment policies of bank.
iv. Ascertain the implications of crossing, material alteration and endorsement
v. Appraise the use of value-added banking services.

Auditing

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

i. Interpret the conceptual underlying theory of auditing.
ii. Apply the vouching procedure of cash and credit transactions, impersonal ledgers.
iii. Predict the duties of an auditor regarding the verification and valuation of assets and liabilities.
iv. Appraise the norms of appointment and removal of an auditor and the conduct of audit in limited companies.
v. Compile audit reports and apply audit processes in non-trading organisation and in computerised environment.

Business Environment

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

i. Identify the impact of business environment on business decisions.
ii. Illustrate the effects of government policy on the economic environment.
iii. Predict the legal framework on the regulation of business entity.
iv. Assess of the social responsibility of business.
v. Evaluate the pros and cons of New Technology Policy of India.

Accounting for Managers

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

i. Describe fund flow and cash flow in Business.
ii. Analyse and interpret accounting statements.
iii. Paraphrase the causes and consequences of over and under capitalization.
iv. Criticize on various investment proposals
v. Appraise the working capital requirement.

Logistics Management

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

i. Explain the various Principles of Logistics Management
ii. Predict the logistics activities involved in customer service
iii. Analyse the objectives of integrated logistics and its barriers
iv. Relate the role of information technology on logistics management
v. Infer the appropriate forecasting techniques

E-Tailing

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

i. Explain about retailing and electronic retailing
ii. Solve their Problems relevant security issues in e-shopping
iii. Infer the relevant procedures involved in e-tailing.
iv. Relate the benefits of e-tailing over retailing
v. Generalize the trending e-tailers in the virtual market

CMC 2201 **அலுவலக மேலாண்மை** **3Hrs/2Cr**

கற்றல் வெளிப்பாடு:

i. அலுவலகத்தின் செயல்பாடுகள்,அமைப்புமுறைகள் மற்றும் அன்றாட நடவடிக்கைகளை தெரிந்துகொள்ளுதல்.

ii. அலுவலகத்தின் பணிப்போக்கு,அதிகாரத்தை பரவலாக்குதல் மற்றும் வளமைகளை தயாரித்தல்.

iii. அலுவலகத்தின் இட அமைவு: அமைப்புதிட்டத்தை தேர்ந்தெடுத்தலோடு பணிக்கேற்ற சூழ்நிலையை ஏற்படுத்துதல்.

iv. அலுவலகத்தின் கடித போக்குவரத்து : பதிவேடுகள் ஆகியவற்றை தயாரித்தல் மற்றும் கையாளுதலை அறிந்து கொள்ளுதல்.

v. கோப்பீட்டு முறைகளை அறிந்துகொண்டு அதைசெயல்படுத்துதல்.

Partnership Accounting

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

i. Paraphrase the importance of partnership firm in the business environment
ii. Diagnose the method of maintaining partner's capital account.
iii. Dissect the proper accounting treatments during admission, retirement and death of a partner.
iv. Evaluate the methods of dissolution of firms and settlement of accounts; Sale of partnership firms to company.
v. Assess the accounting procedure of amalgamation of firms

Business Laws

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

i. Relate the concepts of business law.
ii. Associate with the basic frame work of the law relating to Indemnity, Guarantee and Surety
iii. Describe recent amendments, rules, and regulations related to settling industrial disputes with relevant case law.
iv. Apply the Information technology act 2000 in modern business.
v. Weigh the Right to Information Act.

Relational Database Management (T+L)

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

i. Prepare a table, add records, sorting, filtering and creating reports using Ms-Access.
ii. Create a relational database using a relational database (Oracle 8i)
iii. Describe the basics of SQL and construct queries using SQL.
iv. Create Pl/SQL using cursor, exceptions.
v. Examine Database problems using Procedures, Functions, Packages, and Triggers.

Visual Basic (T+L)

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

i. Illustrate visual basic anatomy and philosophy of VB.
ii. Apply operators, constants and arrays in VB
iii. Compile of event-driven program execution flow control in Visual Basic programming, understand loops to do repetition.
iv. Devise intrinsic controls for form design
v. Develop application using menus and popup menus, understanding of database access and manage databases.

CMC 2202 **காப்பீடு – கோட்பாடுகளும் நடைமுறைகளும்** **3Hrs/2Cr**

கற்றல் வெளிப்பாடு:

i. காப்பீட்டின் வரலாறு, முக்கியத்துவம் மற்றும் அதன் வகைகளைப் பற்றி தெரிந்து கொள்ளுதல்.
ii. காப்பீடு செய்வதற்கான வழிமுறைகளை அறிந்துகொள்ளுதல் மற்றும் அதனை பின்பற்றுதல்.
iii. கடல்சார் காப்பீட்டுப்பத்திர வகைகள், நட்டத்தின் வகைகள் அறிந்து கொள்ளுதல். இழப்பீட்டு தொகை பெறுதல் மற்றும் வழங்குதலை அறிதல்.
iv. தீக்காப்பீட்டின் பலவகையான பத்திரங்களை அறிந்து கொள்வதோடு இழப்பீட்டு தொகை வழங்குதலை பற்றி தெரிந்து கொள்ளுதல்.
v. காப்பீடு முறைபடுத்துதல் மற்றும் வளர்ச்சிக்கான அதிகாரசட்டம் (ஐசுஞுயு) பற்றி தெரிந்து கொள்வதோடு அதன் அதிகாரங்கள் பணிகள் மற்றும் ஐசுஞுயு ஏற்படுத்தப்பட்டதின் நோக்கங்களை தெரிந்து கொள்ளுதல்.

Corporate Accounting

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

i. Associate their accounting knowledge on the issue and redemption of shares and debentures.
ii. Dissect the profits prior to incorporation, underwriting of shares and Rights issue.
iii. Synthesize the items of final accounts of a company.
iv. Appraise the methods of amalgamation, absorption, internal and external reconstruction.
v. Combine the techniques of liquidating the corporate entities in compliance with IFRS

Corporate Law

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

i. Paraphrase about The Companies Act and its significance rules and governance for a Joint Stock Company in India.
ii. Relate the process of issue, transfer and transmission of shares
iii. Compile various meetings and appointments, liquidation of company and alteration of capital
iv. Infer the management and disclosure of NPA in Banks and insurance companies
v. Conceive the idea of obtaining patents

Programming in C (T+L)

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

i. Develop the logic of the programming and to write the algorithm for developing program using operators.
ii. Design, implement, test and debug programs that use the statements if and loops.
iii. Diagnose, execute, test and debug programs that use arrays and string.
iv. Create, write, use functions to implement function calls, parameter passing options and to inscribe c programs using structure and union.
v. Apply C programs using pointers to allocate memory using dynamic memory management functions, to show input and output of files in C and command line arguments.

Multimedia (T+L)

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

i. Infer with various technical aspects of multimedia systems and its elements.
ii. Describe various file formats for audio, video and text media.
iii. Apply the tools and perform creative editing on Photoshop and flash platforms.
iv. Create rich forms in flex environment.
v. Develop databases and HTML in Adobe AIR

Higher Accounting

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

i. Synthesize the accounts of banking companies with accounting procedures.
ii. Conceive the accounting procedures of insurance companies.
iii. Develop knowledge to prepare consolidated balance sheet after adjusting common transaction between the holding and subsidiary companies.
iv. Infer with the accounting practices followed in Public Utility Concerns
v. Prepare final accounts of services sector like software, hospital, hotel, entertainment, telecommunication and educational institutions.

Marketing Research

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

i. Explain the scope and managerial importance of marketing research and agencies.
ii. Relate the various methods and process of marketing research.
iii. Apply the basic methods of collecting and processing of data.
iv. Analyse and interpret both qualitative and quantitative data
v. Devise research reports with the application of MIS.

Web Technology (T+L)

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

i. Illustrate algorithm and commands in HTML.

ii. Relate various commands and functions in Java Script.
iii. Apply the fundamentals of PHP.
iv. Explain working environment with PHP.
v. Develop object-oriented programming by using PHP

Software Engineering

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

i. Match strong fundamental knowledge in software engineering and multidisciplinary engineering.
ii. Explain applicable solutions using software engineering approaches with ethical, social, legal and economic concerns.
iii. Plan system analysis by creating architectural design and user interface design.
iv. Design various types of UML diagrams.
v. Relate software testing with quality assurance.

Event Management

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

i. Describe about various events and the occasions for conducting events.
ii. Identify the need and purpose of event management.
iii. Design event objectives.
iv. Prepare the plan for the conduct of various events for different target groups.
v. Evaluate the requirement of staff and outsourcing.

Financial Management and Control

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

i. Describe the traditional and modern approaches of financial management.
ii. Compute the various types of cost of capital.
iii. Compare and apply the various theories of capital structure.
iv. Weigh the dividend distribution decisions.
v. Ascertain knowledge in managing the stock, cash and receivables.

Income Tax

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

i. Relate the knowledge about basic concepts, terminologies and residential status of an assessee and apply the provisions of Income Tax Act 1961.
ii. Infer the provisions of Income from Salary and its computation.
iii. Assess the exemptions and computation of Income from House Property, Profits and Gains from Business or Profession, capital gains and other sources.
iv. Compare the provisions of Income Tax and compute the taxable income and tax liability of an Individual.
v. Apply deductions on gross total income and calculate Tax Deducted at Source.

Net Programming (T+L)

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

i. Apply C+ to program applications in .NET.
ii. Devise Object Oriented Programs using VB .NET.
iii. Relate ADO .NET to access and control data.
iv. Develop multithreading, remoting, parsing and inter-operability with Adv.NET Programming.
v. Devise web application development using ASP.NET

Project Work

1. Commerce / Computer Application Based Projects are permitted.
2. Individual Project under a Supervisor / Guide.
3. Student has to carry out the project during VI semester.
4. Viva-voce will be conducted at the end of the VI semester.
5. The Project Report Evaluation and Viva- Voce Examination will carried out Jointly by internal examiner (Supervisor / Guide) and external examiner

Export Promotion

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

i. Recite an export order and get knowledge on export licenses.
ii. Describe about export financing and pricing.
iii. Devise export packaging and pre shipment documentation.
iv. Prepare various shipping documents.
v. Analyse import documentation and incentives of foreign trade.

Environmental Studies

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

i. Paraphrase the importance of environmental studies and methods of conservation of natural resources.
ii. Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.
iii. Devise the sources, environmental effects and control measures of various types of pollutions.
iv. Weigh the various methods of waste management.
v. Conceive solution for different social issues and describe the necessities for Environmental Act

Department of Commerce (PA)

Course Outcomes – B. Com - Professional Accounting

CPA 1201 செயலர் பணிமுறை **3 Hr / 2 Cr**

கற்றல் வெளிப்பாடு

i. நிறுமத்தையும் அதன் வகைகளையும் அறிந்து கொள்வதோடு நிறுமச் செயலருக்குரிய தகுதிகளையும், பொறுப்புகளையும் அறிந்திருப்பர்.

ii. நிறுமத்தைத் தோற்றுவித்தல் மற்றும் மூலதனத்தைத் திரட்டுதல் ஆகியவற்றைக் கற்றுக்கொள்வதோடு நிறுமச் செயலருக்குரிய பங்கினை அறிந்திருப்பர்.

iii. நிறுமத்தின் வளர்ச்சிக்காக எடுக்கப்படும் பல்வேறு வகையான தீர்மானங்கள், கூட்டங்கள் பற்றி முறையாக அறியும் திறனைப் பெற்றிருப்பர்.

iv. நிறுமத்தை மேலாண்மை செய்யவருக்குரிய பணி, பொறுப்பு ஆகியவற்றைப் பற்றி முழுமையாக அறிந்திருப்பர்.

v. நிறுமத்தைக் கலைக்கும்போது ஏற்படும் நிர்வாக நிலையையும், இயக்குநரின் பொறுப்பையும், கடமையையும் அறிந்திருப்பர்.

Financial Accounting – I

At the end of the Course, Students will be able to

i. Interpret the Bank Reconciliation Statement and Final Accounts
ii. Diagnose the Different Types of Bills, Dishonour and its Renewal
iii. Compute the Depreciation Under Different Methods
iv. Prepare the Receipts and Payments Account, Income and Expenditure Account for Non-Profit Organizations
v. Examine the Errors in Record Keeping and Methods of Rectification of Errors

Business Communication

At the end of the Course, Students will be able to

i. Explain the Types, Barriers and Principles of Effective Communication
ii. Classify the Needs, Functions, Kinds and Layout of Business Letters
iii. Compare the Bank Correspondence and Insurance Correspondence
iv. Identify the Types of Application Letters
v. Synthesize Agenda, Minutes and Proposals

Business Economics

At the end of the Course, Students will be able to

i. Explain the Basic Economic Concepts and Methods of Economic Study

ii. Analyse the Demand and Supply Analysis and Demand Forecasting.
iii. Differentiate Production, Cost and Revenue Analysis
iv. Identify the various Methods of Pricing of Products and Market Structure
v. Determine Economic, Analyse and Different Measures to Control Business Cycle

Corporate Social Responsibility

At the end of the Course, Students will be able to

i. Explain the History and Evolution of Corporate Social Responsibilities and Analyse the Concept of Charity and Sustainability
ii. Compare the Corporate Social Responsibilities, Activities and Outline the legislation in Corporate Social Responsibilities of India
iii. identify the Drivers of Corporate Social Responsibilities in India
iv. Explain the role of Stakeholders and Public Sector in Corporate Social Responsibilities
v. Infer the Responsibilities of Corporate Foundations

Practical Auditing

At the end of the Course, Students will be able to

i. Explain the Qualifications, Duties and Responsibilities of an Auditor
ii. Identify the Various Types of Audit
iii. Classify the different Types of Audit Programme and Draft the Audit Report
iv. Examine the Internal Control System from Internal Check
v. Describe the Appointment, Remuneration and Removal of an Auditor of a Limited Companies

CPA 1202 **மேலாண்மைத் தத்துவங்கள்** **3 Hr / 2 Cr**

கற்றல் வெளிப்பாடு

i. மேலாண்மை குறித்தும் அதற்குரிய தன்மைகள் பற்றியும் அறிந்து கொள்வதோடு, மேலாண்மைக்குரிய கோட்பாட்டையும் முழுமையாக அறிந்திருப்பர்.
ii. திட்டமிடுதல், அதன் வகைகள் மற்றும் அதன் கூறுகள் ஆகியனவற்றை அறிந்து கொள்வதோடு அதன் நன்மை, தீமைகள் குறித்து அறிந்திருப்பர்.
iii. ஒழுங்கமைத்தல் மற்றும் அதன் நன்மைகள், தீமைகளை அறிந்து கொள்வதோடு பல்வேறு படிநிலைகளை அறிந்திருப்பர்.
iv. இயக்குதல் மற்றும் கட்டுப்படுத்துதல் பற்றியும், மேலும் அதில் உள்ள முக்கிய கூறுகள், தத்துவங்கள், நடைமுறைகள் குறித்தும், மற்றும் அதன் நன்மைகள், தீமைகள் குறித்து முழுமையாக அறிந்திருப்பர்.
v. செயல் ஊக்குவித்தல், அதன் சிறப்பியல்புகள் ஆகியவற்றை அறிந்து கொள்வதோடு தகவல் நடைமுறையில் ஏற்படும் தடைகள் மற்றும் அதனை நீக்குதல் தொடர்பான திறனை பெற்றிருப்பர்.

Financial Accounting –II

At the end of the Course, Students will be able to

i. Describe Single Entry System with Double Entry System of Accounting
ii. Explain the Accounting Treatment of Consignment
iii. Differentiate the Joint Venture from Partnership Accounts
iv. Prepare the Final Accounts of Partnership Firms
v. Examine the Treatment of Goodwill and Accounting of Joint Life Policy

Business Law

At the end of the Course, Students will be able to

i. Explain the Nature and Classification of Contracts Under the Indian Contract Act, 1872
ii. Identify the Different Modes of Discharge of Contract and Compare the Contract of Indemnity and Guarantee
iii. Describe the Rights and Liabilities of Principal and Agents
iv. Evaluate the Rights and Liabilities of Partners Under Partnership Act, 1932
v. Examine the Features of Sale of Goods Act, 1930

Business Environment

At the end of the Course, Students will be able to

i. State the Nature and Objectives of Business
ii. Interpret the Micro and Macro Environment of Business and its Elements
iii. Classify the Various Government Policies for Business Start-up's and Identify the Importance of Liberalization, Privatization and Foreign Investment
iv. Compare the Different Organizations to Facilitate the Business Includes Indian Regulatory Bodies, Indian Development Banks and Global Organization
v. Examine the Accounting Bodies Involved in Finance, Marketing and Business

Enterprise Resource Planning

At the end of the Course, Students will be able to

i. Describe the Need for Enterprises Resource Planning System and the Reasons for the Growth of Enterprises Resource Planning Market
ii. State the various Enterprises Resource Planning Solutions and Functional Modules for the Current Scenario
iii. Asses the Process and Methodology of Enterprises Resource Planning and implementation
iv. Classify the Systems and Products used in Data Processing
v. Examine the Futures Directions in Enterprises Resource Planning Market

Customer Relationship Management

At the end of the Course, Students will be able to

i. Explain the Concept and Context of Customers Relationship Management

ii. Diagnose the Customers Behaviour in Relationship Perspective
iii. Compile the Various Elements Involved in Customer Relationship Management
iv. Evaluate the Different Planning Process of Customer Relationship Management
v. State the necessity of Customer Relationship Management Software Package

CPA 2201 வங்கியியல் சட்டம் மற்றும் நடைமுறைகள் 3 Hr / 2 Cr

கற்றல் வெளிப்பாடு

i. வணிக வங்கிகளின் தோற்றம் மற்றும் அதன் பணிகள், பொறுப்புகள் ஆகியன குறித்து முழுமையாக அறிந்திருப்பர்.
ii. வங்கியிருக்கும் வாடிக்கையாளருக்கும் உள்ள உறவு மற்றும் வங்கியருக்குரிய பணிகள், உரிமைகள், கடமைகள் குறித்து அறிந்திருப்பர்.
iii. வங்கியின் நடைமுறைகள் மற்றும் பணப்பரிவர்த்தனை தொடர்பான அறியும் திறனைப் பெற்றிருப்பர்.
iv. இந்திய வளர்ச்சி வங்கிகள் பற்றி அறிந்திருப்பர்.
v. இணைய வங்கிச் சேவை குறித்து முழுமையாக அறிந்து கொள்வதோடு அதன் நன்மை, தீமைகள் குறித்து அறிந்திருப்பர்.

Cost Accounting - I

At the end of the Course, Students will be able to
i. Define the Various Concepts of Cost and its Elements
ii. Apply the Different Techniques in Inventory Control
iii. Examine Various Methods of Wage Payments
iv. Ascertain Overhead Costing in Service Departments for Apportionment and allocation
v. Design Reconciliation of Cost and Financial Statements

Corporate Accounting - I

At the end of the Course, Students will be Able to
i. Classify Different Methods of Issue of Shares and Debentures
ii. Prepare the Statement Showing Profit or Loss Prior to Incorporation
iii. Ascertain the Value of Goodwill and Shares.
iv. Demonstrate Amalgamation, Absorption and Reconstruction of Joint Stock Companies
v. Conclude Liquidator's Final Statement of Account.

Income Tax Law and Practices - I

At the end of the Course, Students Will be Able to
i. Classify the provisions of Income Tax Act, 1961
ii. Ascertain the Taxable income from salary
iii. Determine the Income from House Property

iv. Diagnose the concept of Profits and Gains, Business/Profession and its computations
v. Ascertain the Income from Other Sources.

Company Law – I

At the end of the Course, Students Will be Able to

i. Explain the various provisions and perspectives of Companies Act, 2013
ii. Substitutive the procedures related to the formation of a company
iii. Classify the Forms, Clauses and Contents of Memorandum and Articles of Association
iv. Examine the Types, Nature, Classes and Alteration of Share Capital.
v. Predict the Effects of Issue of Share Warrants.

Auditing and Assurance – I

At the end of the Course, Students Will be Able to

i. Describe the Implications regarding Detection of Errors and Frauds
ii. Prepare the Audit Programme and Internal Control
iii. Differentiate the Vouching of Cash and Trading Transactions
iv. Distinguish Verification and Valuation of Assets and Liabilities.
v. Explain the Liabilities of an Auditor.

CPA 2202 **காப்பீடு – கோட்பாடுகளும் நடைமுறைகளும்** **3Hrs/2Cr**

கற்றல் வெளிப்பாடு

i. காப்பீட்டின் வரலாறு, முக்கியத்துவம் மற்றும் அதன் வகைகளைப்பற்றி தெரிந்து கொள்ளுதல்.
ii. காப்பீடு செய்வதற்கான வழிமுறைகளை அறிந்து கொள்ளுதல் மற்றும் அதனை பின்பற்றுதல்.
iii. கடல்சார் காப்பீட்டுப் பத்திர வகைகள், நட்டத்தின் வகைகளை அறிந்து கொள்ளுதல் மற்றும் இழப்பீட்டு தொகை பெறுதல் மற்றும் வழங்குதலை அறிதல்.
iv. தீகாப்பீட்டின் பல வகையான பத்திரங்களை அறிந்து கொள்வதோடு இழப்பீட்டு தொகை வழங்குதலை பற்றி தெரிந்து கொள்ளுதல்.
v. காப்பீடு முறை படுத்துதல் மற்றும் வளர்ச்சிக்கான அதிகார சட்டம் (IRDA) பற்றி தெரிந்து கொள்வதோடு அதன் அதிகாரங்கள் பணிகள் மற்றும் IRDA ஏற்படுத்தப்பட்டதின் நோக்கங்களை தெரிந்துகொள்ளுதல்.

Cost Accounting –II

At the end of the Course, Students Will be Able to

i. Explain the Advantages and Disadvantages of Job Costing.
ii. Compute the value and profits of Contracts.
iii. Substitute the Service Costing Techniques for various Services Sector
iv. Compute of Normal and Abnormal Losses in Process Costing
v. Assess the Methods of Apportionment of Joint Cost

Corporate Accounting- II

At the end of the Course, Students Will be Able to

i. Infer the Consolidated Balance Sheet of Holding Company
ii. Prepare the Banking Company Accounts
iii. Examine the Profit or Loss of Insurance Company
iv. Compare the Different Approaches and Objectives of Inflation Accounting
v. Explain the Important Provisions and Aspects of Accounting Standards.

Income Tax Law and Practices – II

At the end of the Course, Students Will be Able to

i. Substitute the Deductions under Section 80 C to 80 U
ii. Calculate the Total Income and Tax Liability of Individual
iii. Classify the various Procedures of Assessment of Income
iv. Classify the Powers and Duties of Income Tax Authorities
v. Associate the Assessment Procedures of Partnership Firms and Joint Stock Companies

Company Law - II

At the end of the Course, Students Will be Able to

i. Explain about the ways of acquiring Membership in a Company
ii. Classify the Provision regarding Issue and Forfeiture of Shares
iii. Examine the various kinds and Essentials of Meetings and Resolutions
iv. Classify the ways to Manage the Company
v. Ascertain the various modes of Winding Up of a Company

Auditing And Assurance - II

At the end of the Course, Students Will be Able to

i. Explain the Classification of Capital and Audit of share capital
ii. Evaluate the Audit of Public Accounts and its present issues
iii. Examine the audit procedure of different Special Institutions such as Educational Institutions, Clubs, Hospitals, Insurance Companies and Banks.
iv. Classify the Emerging Areas of Auditing
v. Combined the Computerized Information System and Role of Auditor in Computerized Audit Environment

Corporate Governance

At the end of the Course, Students Will be Able to

i. Explain the Theoretical Aspects of Corporate Governance
ii. Classify the Ownership Structure and Firm Performance
iii. Outline the Roles, Duties and Responsibilities of Board of Directors
iv. Classify the Various Methods of Controlling the Shareholders
v. Analyse the International Corporate Governance

Indirect Taxes

At the end of the Course, Students Will be Able to

i. Explain the New Goods and Services Tax Policy in India
ii. Outline about the Customs Duty and its Procedures
iii. Identify the Benefits of Implementing Goods and Services Tax
iv. Communicate the Procedures involved in Registration of GST and its Exemptions
v. Assess the Payment and Procedure for Filling of GST

Management Accounting

At the end of the Course, Students Will be Able to

i. Explain the Role of Management Accountant
ii. Analyse and Interpret the Financial Statements
iii. Evaluate Cash Flow and Fund Flow Statements
iv. Associate the Advantages, Disadvantages and Applications of Marginal Costing
v. Compile the Different Types of Budgets and its Applications

Enterprise Information Systems

At the end of the Course, Students Will be Able to

i. Examine the Customers Expectation about the Enterprise Information System Packages
ii. Predict the Infrastructure for Enterprise Information System Deployment
iii. Communicate about the Components of Automated Information Systems and its Applications
iv. Substitute E-Commerce and M-Commerce and asses its related Risks and Controls
v. Classify the Core Modules of Banking and its Regulatory and Compliance Requirements

Financial Markets and Services

At the end of the Course, Students Will be Able to

i. Explain about various services and functions of Financial Markets
ii. Compare the Financial Services provided by Banking and Financial Corporations
iii. Communicate the various Financial Institutions and Stock Exchanges
iv. Outline the Growth of Venture Capital in India
v. Discuss the Legal Framework and Role of SEBI

Accounting for Decision Making

At the end of the Course, Students Will be Able to

i. Analyse the Various Financial Statements and Compare Management and Financial Accounting
ii. Outline the Needs and Ways to Forecast Working Capital Requirements
iii. Demonstrate Break Even Analysis and its Managerial Applications
iv. Compare Material and Labour Variances
v. Discuss the Various Methods of Capital Budgeting

Environmental Studies

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

i. Explain the importance of environmental studies and methods of conservation of natural resources.
ii. Describe the structure and function of an ecosystem and explain the values and Conservation of bio-diversity.
iii. Predict the sources, environmental effects and control measures of various types of pollutions.
iv. Ascertain the appropriate methods for waste management.
v. Compile social issues and legal provision and describe the necessities for Environmental Act.

Financial Management

At the end of the Course, Students will be able to

i. Identify the Functions of Financial Management and Role of Financial Manager
ii. Discuss the Sources of Finance and Lending Institutions
iii. Compare Different Cash Flow Techniques and Theories of Capital Structure
iv. Compute the overall Cost of Capital and Leverages
v. Demonstrate the Working Capital Requirements and its Management

Investment Management

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

i. Discuss the terminologies, objectives, principles and the process of investment.
ii. Compare the various investment avenues and financial instruments.
iii. Evaluate the riskiness of a portfolio position and find the relationship between risk and return.
iv. Outline the mechanics of trading in securities market.
v. Identify the statutory and legislative measures for the functioning of securities market and administrative bodies like SEBI.

Strategic Management

At the end of the Course, Students Will be Able to

i. Describe about the various Stakeholders in Business
ii. Evaluate the Industry Structure and Core Competencies
iii. Analyse the Environmental Threats and Opportunities Profile in Organization
iv. Compare the Different Techniques of Strategic Evaluation and Control.
v. Explain the Strategic issues for Non-Profit Organizations

Operations Management

At the end of the Course, Students Will be Able to

i. Examine about Nature and Importance of Operations Management

ii. Evaluate the Demand Forecasting Techniques
iii. Classify various Sales and Operations Planning Techniques
iv. Synthesize different Methods for Measuring and Improve Productivity
v. Evaluate various Project Management and Scheduling Techniques

Department of Commerce

Course Outcomes – B. Com

Financial Accounting – I

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

i. Identify basic accounting concepts, prepare accounts under single entry system and reconcile cash and bank balances.
ii. Interpret transactions on bill of exchange and apply different techniques of calculating average due date and interest under account current method.
iii. Compare the methods of recording depreciation and calculate the amount of loss under insurance claim.
iv. Determine the accounting treatment in the books of consignor and consignee and prepare accounts of joint venture.
v. Integrate the accounting procedure for various non-profit organisations.

Business Communication

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

i. Identify various structures of a business letter and the occasions for drafting letters such as an enquiry about the product, provide an offer, order and status enquiries.
ii. Paraphrase sales letters, collection letters and reminders, complaints, claims and adjustments.
iii. Appraise applications for situation vacant.
iv. Diagnose different Modern Communication methods.
v. Prepare corporate correspondence, minutes, reports and office notes.

Principles of Marketing

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

i. Define the importance of marketing and market segmentation.
ii. Explain a new product development and the advantages of packaging.
iii. Predict the price of a product.
iv. Examine the need of sales promotional techniques.
v. Appraise the use of e-marketing and consumer protection.

Business Economics

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

i. Describe the nature of business economics.
ii. Apply demand analysis to relevant economic issues.

iii. Examine the production and cost function.
iv. Compare price under various market conditions.
v. Appraise the methods of measuring national income.

Principles of Accounting

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

i. Define the terminologies and concepts of accounting.
ii. Explain the rules of journalizing and prepare journal.
iii. Predict ledger posting and balancing.
iv. Classify various subsidiary books.
v. Assess the profitability of a business firm through final accounts.

Principles of Insurance

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

i. State the nature and the principles of insurance.
ii. Describe the available life insurance policies and its benefits.
iii. Infer the procedures for making claims against marine insurance policy.
iv. Examine the nature of fire insurance and reinsurance.
v. Interpret the importance of burglary, motor and personal accident insurance.

Financial Accounting -II

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

i. Define the concept of Branch Account and the scope of Departmental Accounting.
ii. Compare the Merits and Demerits of Hire Purchase and Royalty.
iii. Appraise the method of maintaining partners' capital account and observe the proper accounting treatments during admission.
iv. Assess various accounts prepared during retirement and death.
v. Evaluate the concept of Dissolution of Partner and Partnership Firm

Banking Theory Law and Practice

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

i. Identify the relationship between banker and customer.
ii. Paraphrase the banking system in India and the role of RBI in development of Indian Economy,
iii. Predict the legal significance of pass book, different types of negotiable instruments and investment policies of bank.
iv. Ascertain the implications of crossing, material alteration and endorsement
v. Appraise the use of value-added banking services.

Auditing

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

i. Interpret the conceptual underlying theory of auditing.
ii. Apply the vouching procedure of cash and credit transactions, impersonal ledgers.
iii. Predict the duties of an auditor regarding the verification and valuation of assets and liabilities.
iv. Appraise the norms of appointment and removal of an auditor and the conduct of audit in limited companies.
v. Compile audit reports and apply audit processes in non-trading organisation and in computerised environment

Business Environment

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

i. Identify the impact of business environment on business decisions.
ii. Illustrate the effects of government policy on the economic environment.
iii. Predict the legal framework on the regulation of business entity.
iv. Assess of the social responsibility of business.
v. Evaluate the pros and cons of New Technology Policy of India

Principles of Management

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

i. Interpret the basic concepts of management and its functions.
ii. Predict the types of organising, source of recruitment and selection procedures.
iii. Explain the importance of motivation and communication.
iv. Examine their leadership qualities and co-ordinating skills.
v. Prepare reports and budgets.

Creative Leadership

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

i. Illustrate different leadership styles and the qualities of a leader.
ii. Paraphrase the importance of team work and motivation.
iii. Predict the need for change.
iv. Ascertain the factors causing stress and its management.
v. Solve the functional and dysfunctional conflicts.

COM 2201 **அலுவலக மேலாண்மை** **3 Hrs / 2 Cr**

கற்றல்வெளிப்பாடு

i. அலுவலகத்தின் செயல்பாடுகள், அமைப்பு முறைகள் மற்றும் அன்றாட நடவடிக்கைகளை தெரிந்து கொள்ளுதல்.

ii. அலுவலகத்தின் பணிப்போக்கு, அதிகாரத்தைப் பரவலாக்குதல் மற்றும் வளமைகளை தயாரித்தல்.

iii. அலுவலகத்தின் இட அமைவு: அமைப்புதிட்டத்தை தேர்ந்தெடுத்தலோடு பணிக்கேற்ற சூழ்நிலையை ஏற்படுத்துதல்.

iv. அலுவலகத்தின் கடிதபோக்குவரத்து :பதிவேடுகள் ஆகியவற்றை தயாரித்தல் மற்றும் கையாளுதலை அறிந்து கொள்ளுதல்.

v. கோப்பீட்டு முறைகளை அறிந்து கொண்டு அதை செயல்படுத்துதல்.

Partnership Accounting

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

i. Describe the importance of partnership firm in the business environment.
ii. Examine the method of maintaining partners' capital account.
iii. Ascertain the proper accounting treatments during admission, retirement and death of a partner.
iv. Appraise the accounting procedure of amalgamation of firms.
v. Evaluate the methods of dissolution of firms and settlement of accounts; Sale of partnership firms to company.

Business Laws

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

i. Interpret the concepts of business law.
ii. Examine the basic frame work of the law relating to Indemnity, Guarantee and Surety.
iii. Predict recent amendments, rules, and regulations related to settling industrial disputes with relevant case law.
iv. Apply the Information technology act 2000 in modern business.
v. Evaluate Right to Information Act.

Risk Management

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

i. Paraphrase the various risks faced by an organization.
ii. Assess the various risk control measures.

iii. Ascertain a risk management program for a business organization.
iv. Compare the ways to manage finance risk and apply the insurance mechanism in risk management.
v. Plan to manage international risk and taxation.

Logistics and Supply Chain Management

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

i. Interpret the impact of logistics functions and their integration with other business functions.
ii. Associate various concepts in Supply Chain Management like co-ordination, planning for uncertainty, supply contracts, logistics management, outsourcing and procurement management.
iii. Apply the knowledge and skills in the development and operation of integrated logistics, supply management, warehousing, inventory and transportation.
iv. Examine the creation of new value in the supply chain for customers, society and the environment.
v. Design quality systems in logistics through the effective use of information technology and Analyse (big) data in a supply chain.

Information Technology

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

i. Describe the various business process automation.
ii. Predict latest devices and computing technologies such as cloud computing, population computing & mobile computing.
iii. Apply current technical concepts and practices in the core information technologies of networking and network issues, data management and software handling.
iv. Integrate technical hardware and software including network, database and security components.
v. Evaluate Enterprise Resource Planning, Core banking System and Management Information System

COM 2202 காப்பீடு – கோட்பாடுகளும் நடைமுறைகளும் **3 Hrs / 2 Cr**

கற்றல்வெளிப்பாடு

i. காப்பீட்டின் வரலாறு, முக்கியத்துவம் மற்றும் அதன் வகைகளைப் பற்றி தெரிந்து கொள்ளுதல்.
ii. காப்பீடு செய்வதற்கான வழிமுறைகளை அறிந்து கொள்ளுதல் மற்றும் அதனை பின்பற்றுதல்.
iii. கடல்சார் காப்பீட்டுப் பத்திர வகைகள், நட்டத்தின் வகைகளை அறிந்து கொள்ளுதல் மற்றும் இழப்பீட்டு தொகை பெறுதல் மற்றும் வழங்குதலை அறிதல்.
iv. தீ காப்பீட்டின் பலவகையான பத்திரங்களை அறிந்து கொள்வதோடு இழப்பீட்டு தொகை வழங்குதலை பற்றி தெரிந்து கொள்ளுதல்.
v. காப்பீடு முறை படுத்துதல் மற்றும் வளர்ச்சிக்கான அதிகாரசட்டம் (IRDA) பற்றி தெரிந்து கொள்வதோடு அதன் அதிகாரங்கள் பணிகள் மற்றும் IRDA ஏற்படுத்தப்பட்டதின் நோக்கங்களை தெரிந்து கொள்ளுதல்.

Corporate Accounting

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

i. Interpret accounting knowledge on the issue and redemption of shares and debentures.
ii. Ascertain the profits prior to incorporation, underwriting of shares and Rights issue.
iii. Compile the items of final accounts of a company.
iv. Evaluate the account for amalgamation, absorption, internal and external reconstruction.
v. Integrate the techniques of liquidating the corporate entities in compliance with IFRS.

Corporate Laws

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

i. Paraphrase knowledge about The Companies Act and its significance rules and governance for a Joint Stock Company in India.
ii. Predict the process of issue, transfer and transmission of shares
iii. Plan for various meetings and appointments, liquidation of company and alteration of capital
iv. Examine the management and disclosure of NPA in Banks and insurance companies
v. Evaluate the process of obtaining patents

Business Ethics

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

i. Interpret the principles of Ethics in business.
ii. Examine knowledge about principles to be followed by the holders of Public life.
iii. Ascertain the uses and importance of ethics in marketing.
iv. Evaluate the ethics in various phases of human resource management.
v. Analyse the ethical issues of society with reference to air, water and land pollutions.

Auditing and Assurance

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

i. Explain the Principles, Procedures, Techniques and Skills in Auditing.
ii. Relate the Vouching Procedure, Valuation and Verification of Assets and Liabilities.
iii. Appraise the norms of appointment and removal of an Auditor, his Duties and liabilities.
iv. Plan for the conduct of audit in limited companies and preparation of audit reports.
v. Integrate Audit Processes in Non-Trading organization and auditing in computerized environment.

E-Commerce

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

i. Describe various e-commerce models and e-marketing.
ii. Examine various e-payment systems and e-procurement.
iii. Determine internet security, maintaining secure information, digital signatures and firewalls.
iv. Integrate the key features of Internet, Intranets and Extranets and explain how they relate to each other.
v. Apply the traditional and new communication and marketing approaches that create competitive advantage in the New Economy

Business Correspondence

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

i. Explain various structures of a business letter and the occasions for drafting business letters.
ii. Draft an enquiry about the product; provide an offer, order and also sales letters.
iii. Classify credit and status enquiries, collection letters and reminders, complaints, claims and adjustments.
iv. Correspond with the banker, insurer and employer.
v. Prepare agency, export and import correspondence and to draft applications for situation vacant.

Higher Accounting

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

i. Predict an idea of Insolvency of Sole Trader and Firm with accounting procedures.
ii. Develop knowledge to prepare accounts of banking and insurance companies.
iii. Appraise the knowledge of preparing consolidated balance sheet after adjusting common transaction between the holding and subsidiary companies.
iv. Examine the accounting practices followed in Public Utility Concerns
v. Prepare Final accounts of Farms and Hotels and get enlightened with the various accounting standards.

Income Tax- I

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

i. Relate the knowledge about basic concepts, terminologies and residential status of an assessee and the provisions of Income Tax Act 1961.
ii. Examine the provisions of Income from Salary and its computation.
iii. Ascertain the exemptions and computation of Income from House Property.
iv. Determine Profits and Gains from Business or Profession or vocation.
v. Diagnose Income from capital gains and other sources and calculate Tax Deducted at source.

Cost Accounting-I

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

i. Explain the fundamentals of cost accounting system.
ii. Prepare cost statement, calculate material levels and prepare stores ledger.
iii. Examine various systems of wage payment.
iv. Analyse the steps involved in allocation, apportionment and reapportionment of over heads.
v. Integrate the principles of job order, batch and contract costing systems.

Human Resource Management

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

i. Demonstrate the basic concepts, functions and processes of Human Resource Management.
ii. Integrate teamwork, leadership and motivational skills with organisational scenarios.
iii. Contribute to the recruitment, selection and development of personnel.
iv. Evaluate the performance of the employees.
v. Administer employee training and development.

Export Marketing

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

i. Describe the role of exports in developing economy procedures and regulations.
ii. Predict the export procedures and customs regulations.
iii. Examine the export financing institutions and aware of Market Development Fund
iv. Analyse the various export incentives.
v. Classify the export promotional institutions and consultancy services.

Environmental Studies

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

i. Interpret the importance of environmental studies and methods of conservation of naturalresources.
ii. Describe the structure and function of an ecosystem and explain the values and

Conservation of bio-diversity.

iii. Predict the sources, environmental effects and control measures of various types of pollutions.
iv. Examine the appropriate methods for waste management.
v. Analyse social issues and legal provision and describe the necessities for Environmental Act

Management Accounting

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

i. Ascertain the nature of businesses and the importance of management accounting in their decision-making.
ii. Examine fund flow and cash flow statements.
iii. Appraise techniques in working capital management and marginal costing.
iv. Analyse over capitalisation and under capitalisation.
v. Integrate capital budgeting appraisal methods to accept or reject a project.

Income Tax II

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

i. Describe the powers and duties of Income Tax Authorities.
ii. Assess the provisions of Income Tax and computation of total income and tax liability of an Individual.
iii. Appraise the provisions of Income Tax and compute the total income and tax liability of Hindu Undivided Family.
iv. Evaluate the assessment procedures of Firms
v. Apply the assessment procedures of Companies and methods of filling Income Tax Returns.

Cost Accounting II

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

i. Compute output cost and joint product cost.
ii. Demonstrate the procedures involved in services costing.
iii. Prepare process accounts to ascertain normal/abnormal profit or loss in each stage of production and reconcile the profit/loss of cost and financial books.
iv. Prepare cash budget and flexible budget.
v. Interpret variable cost variances and fixed cost variances.

Investment Management

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

i. Explain the terminologies, objectives, principles and the process of investment.
ii. Differentiate various investment avenues and financial instruments.
iii. Evaluate the riskiness of a portfolio position and find the relationship between risk and return.

iv. Interpret the mechanics of trading in securities market.
v. Predict the statutory and legislative measures for the functioning of securities market and administrative bodies like SEBI.

Department of Economics

Course Outcomes – B.A Economics

Micro Economics I

At the end of course, students will be able to

i. Understand distinct dimensions of economics as a discipline in terms of broad concepts, divisions and approaches.
ii. Analyse the role play of an individual and their maximization principles.
iii. Identify the means and ways of utilizing the factors of production with different analytical categories.
iv. Evaluate the working of economic laws in terms of returns, proportion, scale and equilibrium.
v. Assess cost and revenue behaviour of firm under different market conditions.

Economic Statistics I

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

i. Understand fundamentals of statistics and types of data
ii. Acquaint skills of drawing samples from known and unknown population
iii. Classify sample data into tabulation
iv. Analyse characteristics of sample distribution (level, spread and shape)
v. Compute inequality measures of Lorenz ratio and Gini coefficient

History of Economic Thought

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

i. Trace the historical roots of economic thought
ii. Evaluate the ideas of economic thought
iii. Evaluate modern economic ideas in light of classical views
iv. Highlight distinguish ideas of Indian thought
v. Comprehend economic ideas

Decision – Making and Goal Setting

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

i. Comprehend the types of decision making and their likely outcomes
ii. Evolve the strategic decision making to experience win-win situation
iii. Develop the art of smartness in decision making

iv. Design a pragmatic approach to decision making to avoid failures in goal setting
v. Invoke self-introspection to evolve a mature decision making

Population Dynamics

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

i. Familiarize the vital indicators of population and fertility status
ii. Analyse the causes and remedial measures of mortality trends
iii. Understand the process of demographic transition in relation to theories and beliefs
iv. Assess the effects of population on migration and urbanization
v. Evaluate the effectiveness of population policies in India

Micro Economics II

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

i. Demonstrate the market structure and price-output determination overtime.
ii. Assess the monopoly behaviour in term of price-output determination and discrimination.
iii. Identify the working of imperfect market behaviour in terms of duopoly and oligopoly.
iv. Evaluate the factor markets and their pricing.
v. Predict the liquidity behavior of money and its risk with uncertainty.

Economic Statistics II

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

i. Distinguish association from attributes
ii. Evaluate the essentials of correlation and regression
iii. Apply the time series concept to understand economic behaviour
iv. Make the use of different methods of index numbers to gauge economic trends
v. Compute the probability-based test statistics

Tamilnadu Economy

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

i. Understand the salient features of Tamil Nadu Economy
ii. Evaluate the demographic transition and its dividend
iii. Map out the natural resource bases of Tamil Nadu
iv. Examine the sectoral growth and their contribution to Tamil Nadu Economy
v. Assess the role of infrastructure in economic development

Skills for Work Effectiveness

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

i. Evaluate the work effectiveness and factors influencing skill development

ii. Manage the time, mind and stress with creative self confidence
iii. Express the art of leadership in judging, negotiating and handling situation specific challenges
iv. Culture the technology-based skills and organizational behaviour
v. Design the strategic skill of marketing, financial and human resource management

Health Economics

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

i. Understand the value of health and alternative health care systems
ii. Apply the economic principles in health care pricing
iii. Appreciate the segmented market for health care services
iv. Evaluate the health policy and planning
v. Estimate the cost-benefit analysis of health care services

Macro Economics I

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

i. Identify the issues of macro importance in economic analysis
ii. Familiarize the methods of national income accounting
iii. Interpret the circular flow of income in multi sector models
iv. Assess the nature and types of employment and unemployment
v. Examine the Keynesian theory of employment in relation to classical theories

Public Finance

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

i. Understand the objectives and principles of public finance
ii. Evaluate the different sources of public revenue and their impact
iii. Test the Wagner's law of public spending
iv. Examine the causes, burden and effects of public debt
v. Formulate the budgets for National and sub national governments

International Trade

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

i. Study the basic theories of the international trade
ii. Assess the gains from trade and related issues
iii. Evaluate the issues and challenges in balance of payments
iv. Apply the monetary and non-monetary measures of international trade
v. Appreciate the role of international organizations in trade

Mathematical Economics I

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

i. Express the economic relationships in different mathematical functional forms

ii. Apply the maximization/minimization principles in economic analysis
iii. Understand the effects of substitutes and complementary goods with the help of constrained utility model
iv. Evaluate the concepts of surplus with the help of integrals
v. Illustrate the producers behaviour with the help of production functions

Entrepreneurial Development

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

i. Recognize the role of entrepreneurship in evolving nature and pattern of development process
ii. Track the entrepreneurship as a dynamic entity by means of changing nature of business ventures over time and space
iii. Formulate and planning the economically feasible and financially viable business venture projects
iv. iv. Identify the issues and challenges in entrepreneurial activities
v. Understand the state incentives and assistance for entrepreneurship

Macro Economics II

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

i. Understand the consumer behaviour with the help of Keynesian psychological law
ii. Delineate the types of investment and its determinants
iii. Assess the investment decisions with the help of multiplier and accelerator principles
iv. Evaluate the Keynesian framework for macroeconomic behaviour
v. Examine the effectiveness of macroeconomic policies

Monetary Economics

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

i. Understand the role, types and functions of money
ii. Trace the history of monetary standard onto plastic currency standard
iii. Familiarise the theories of money
iv. Analyse the monetary equilibrium in an economy
v. Formulate the inflationary policy control

Trade Documentation

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

i. Carry out the independently documentation services relating to trade instruments
ii. Acquire the knowledge of inventory management, packaging and containerization
iii. Enable to handle procedures to be followed in export of goods and services
iv. Handle the procedures involved in import of goods and services
v. Avail the trade incentives to the fullest extent possible

Mathematical Economics – II

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

i. Enable to apply profit maximization principle under perfect competitive market condition
ii. Estimate the profit maximizing quantities under monopoly and discriminating monopoly market conditions
iii. Compute the profit maximizing quantities under models of duopoly and oligopoly
iv. Identify the suitable market strategy with the help of game theory.
v. Make the use of input output matrix in economic analysis

Industrial Strategies

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

i. Understand the private sector strategies in relation to public enterprises
ii. Formulate the suitable industrial growth strategies
iii. Identify the locations suited for industries
iv. Measure the optimal resource use efficiency
v. Apprise the organizational innovations

Indian Economics I

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

i. Understand the characteristics and growth dimensions of Indian Economy
ii. Map out Natural resources potential and its uses
iii. Analyse the self-reliance in Agriculture and ensuring food security
iv. Examine the pace and pattern of Industrial Sector growth
v. Assess the contribution of service led growth in Indian Economy

Development Economics and Planning

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

i. Identify the characteristics of developing economies in relation to developed economy
ii. Discern the economic factors from non-economic factors and analysing obstacles to economic development
iii. Comprehend the various theories of economic development
iv. Apply the growth models of development
v. Assess the planning for Indian Economy

Environmental Economics

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

i. Understand the eco-system in terms of diversity, resources and sustainability
ii. Analyze the economy-environment continuum
iii. Evaluate the global warming and weather modifications
iv. Assess the environmental impacts on sustainable development
v. Map out the environment and human interface

Econometrics I

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

i. Understand the history of econometrics and economics as a science
ii. Internalize the role of econometrics in identifying and solving economic problems
iii. Design the econometric methodology for examining issues pertaining to economy
iv. Estimate the econometric models to study economic issues
v. Enable to take decisions on issues and challenges in economy

Economic Journalism

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

i. Understand the aims functions and canons of journalism
ii. Acquaint with the role and types of media in journalism
iii. Acquire the skill of ICT in journalism
iv. Recognize the role of journalism in evaluating economic policies and programmes
v. Comprehend the journalism as a mass communication media and a catalyst of social engineering

Indian Economics II

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

i. Study the distribution issues of poverty and unemployment
ii. Understand the rationale for introducing economic reforms
iii. Identify the emerging regional inequalities and finding conflict resolutions
iv. Evaluate the growth and structure of macroeconomic aggregates in Indian economy
v. Analyse the process of globalization in Indian Economy

Financial Market and Services

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

i. Understand the role and importance of financial sector in modern economies.
ii. Familiarize the strategic ways of taking risks in investment
iii. Gain the insights into functioning of primary and secondary markets
iv. Participate in equity market as an imaginary investor
v. Assimilate the best practices and protection measures

Labour Economics

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

i. Conceptualize the labour as a dynamic economic entity
ii. Understand the persistence of wage differentials and discrimination
iii. Acquire the knowledge on participatory management and collective bargaining

iv. Enable to address industrial disputes
v. Evaluate the social security measures

Econometrics II

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

i. Detect and remove the possible presence of autocorrelation in estimated econometric models
ii. Identify and correct the likely presence of hetroscedasticity in estimated econometric models
iii. Find and address the presence of multi-colinearity in estimated econometric models
iv. Formulate the reduced form of simultaneous system and identification problem
v. Apply the dummy as an instrument variable in econometric models

Personal Empowerment

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

i. Enrich the personality development as global citizen
ii. Evolve the assimilation, absorption and adaptation of effective self esteem
iii. Define the behaviour of an individual in terms of rational - irrational – arational identity
iv. Manage the emotional intelligence in relation to empathetic or sympathetic
v. Understand the self-leadership and evolve situation specific strategies like win-win strategy, Blue Ocean Strategy and Red Ocean strategy etc.

Environmental Studies

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

i. Understand environment as public good
ii. Identify environmental problems and applying remedial measures
iii. Appraise the role of NGO and corporate social responsibility in environmental protection
iv. Evaluate environmental policies in practice
v. Sensitize environmental issues and challenges through media

Department of Religion, Philosophy and Sociology

Course Outcomes – B.A RPS

Study of Religion

On completion of the course, students should be able

i. To define religion and explain the scope of religion
ii. To analyse the relationship between God, Man and Society in various disciplinary perspectives
iii. To classify various theories of religion

iv. To describe the Social and Philosophical concepts of Morality
v. To relate the religious values in their life

Philosophy: Introduction, Scope & Relevance

On completion of the course, students should be able

i. Students will be able to define Philosophy and describe Philosophy and its relationship with science and religion
ii. Students will be able to evaluate basic scientific reasoning and make them to solve the problems of induction
iii. Students will be able to Distinguish the Prescriptive and Descriptive laws and able to describe the causal connections in laws of nature
iv. Students will be able to apply the covering law model of explanation and Probabilistic explanation.
v. Students will be able to evaluate the scientific theories with examples

General Introduction to Sociology

On completion of the course, students should be able

i. To explain the emergence of Sociology as a discipline
ii. To remember the major theoretical perspectives in Sociology
iii. To classify the stages and types of socialization
iv. To define the basic concepts in Sociology related to Social Structure
v. To distinguish between the types of social process

Social Anthropology

On completion of the course, students should be able

i. To describe the relationship between Social Anthropology and Sociology
ii. To identify the basic concepts related to biological evolution
iii. To classify the stages of human evolution
iv. To compare between biological adaptation and socio-cultural adaptation
v. To distinguish between the types of primitive and intermediate societies

Science Through Philosophy

On completion of the course, students should be able

i. Students will be able to analyse the issue of knowledge from scientific and philosophical perspectives
ii. Students will be able to evaluate basic scientific reasoning and make them to solve the problems of induction
iii. Students will be able to Distinguish the Prescriptive and Descriptive laws and able to describe the causal connections in laws of nature
iv. Students will be able to describe the covering law model of explanation and Probabilistic explanation.
v. Students will be able to identify the scientific theories with examples

Social Skills

On completion of the course, students should be able

i. Students will be able to utilize the Soft Skills and its training methods learnt
ii. To explain the elements of Assertive behaviour and its types
iii. Students will be able to demonstrate Emotional Management skills
iv. Students will be able to relate social intelligence and self-awareness in their personal life
v. Critically analyse and apply conflict management skills in their professional and personal life

World Religions

On completion of the course, students should be able

i. Able to explain the basic concepts of God as fire or light
ii. To utilize the Asian concepts on epistemology in improving the knowledge
iii. To identify different religious beliefs and relate them with their own beliefs
iv. To evaluate ancient religions and their traditions' impact
v. To assess and apply religious values in personal life

Introduction to Ethics

On completion of the course, students should be able

i. Understanding the purpose of ethical studies from humanistic point of view.
ii. Distinguishing Goodness and Bad
iii. Differentiate right and wrong in social life.
iv. Students are able to face competitive examinations
v. Enable the students to be responsible citizens

Social Institutions

On completion of the course, students should be able

i. To define the basic types of kinship and descent system
ii. To describe the types of marriages
iii. To distinguish between joint family and nuclear family
iv. To assess the merits and demerits of democracy
v. To classify the belief systems in understanding the origin of religion

Introduction to Psychology

On completion of the course, students should be able

i. To describe the relationship between Social Psychology and Sociology
ii. To identify the basic concepts related to schools of Psychology
iii. To differentiate between Psychological disorders
iv. To classify personality types by applying Hippocrates theory
v. To distinguish between the different defence mechanisms used in Psycho analysis

Science and Reality

On completion of the course, students should be able

i. To analyse the Realistic conception of Universe and its Ontology and Epistemology
ii. To relate Philosophical implications of Time, Space and Relativity in their life
iii. Students will be able to define and explain about the Life and the Origin of Life
iv. To apply the theory of truth in their personal and professional life
v. Students will be able to determine the concept of Artificial Intelligence through Godel's incompleteness theorem

Yoga for Healthy Living

On completion of the course, students should be able

i. Make the students to understand the meaning and importance of Yoga
ii. Students will be able to explain the practices of Yoga
iii. Enable the students to demonstrate Surya namaskara for flexibility.
iv. Make the students to analyse and to perform yoga movements in various combination and forms
v. Make the students to assess other Yogic techniques in terms of fitness value

Saivism, Vaisnavism & Sakthism

On completion of the course, students should be able

i. The students will relate the concepts of God, Creation in their social life
ii. The students will be able to distinguish between Saivism, Vaishnavism & Sakthism beliefs
iii. Concepts on liberation will reflect on students' personal lives.
iv. Students will be able to critically approach religious beliefs of different sects
v. Students will assess the necessity to learn the origin of religions

Classical Indian Philosophy

On completion of the course, students should be able

i. To recall the basic concepts of Indian Philosophy
ii. To explain the meaning of theistic and Atheistic basis in philosophy
iii. To appraise the relevance of philosophical approach in the study of religion
iv. To analyse the applications of philosophy in life
v. To classify the functional aspects of conflicts

Logic

On completion of the course, students should be able

i. To explain the nature and scope of Logic
ii. To identify the four standard forms of categorical statements and categorical Syllogism
iii. To Classify and symbolize the propositions and Combination of arguments and use of brackets

iv. To assess the simple truth table, direct and indirect truth table methods
v. To apply the rules of logic

Study of Indian Society

On completion of the course, students should be able

i. To list out the features of caste system
ii. To explain the major forms of marriages in India
iii. To classify the phases of Indian economy
iv. To examine the impact of Globalization on education
v. To assess the functioning of democracy in India

Philosophy of Religion

On completion of the course, students should be able

i. To list out the different concepts of religions and to discuss the Nature of God
ii. To analyse the various notions of God
iii. To assess the central concepts of Religion
iv. To evaluate the problem of Evil
v. To demonstrate pluralistic ideas in the circumstances where the students are placed

Ancient and Medieval Philosophy

At the end of the course students will be able to

i. To explain the Origin and the development of Philosophy
ii. To identify early philosophical methods of Socrates period
iii. To apply the Plato's theory of knowledge
iv. To appraise the Aristotle's theory of Reality and his conception of Eudemonism.
v. To examine the human nature through Medieval Philosophy

Classical Indian Philosophy – II

At the end of the course students will be able to

i. Describe the six schools of Indian Philosophy and its core concepts (k1)
ii. Understanding the historical development of each system
iii. Compare the evolution of thought among the different thinkers
iv. Make the students to understand the basic concepts so as to enable them to face competitive exams
v. Criticize the thoughts of Classical Indian Philosophy

Social Structure in India

At the end of the course students will be able to

i. To identify the perspectives on the study of Indian society
ii. To explain the different land tenure systems in India
iii. To analyse the problems of tribal people in India

iv. To evaluate the role of patriarchy on the status of women
v. To apply the theories of social change in understanding contemporary society

Research Methods in Sociology

On completion of the course, students should be able

i. To describe the relationship between Social Psychology and Sociology
ii. To identify the basic concepts related to research methodology in sociology
iii. To differentiate between Qualitative and Quantitative research
iv. To develop data collection tool on their own
v. To apply the different techniques of data collection

Social and Political Philosophy

On completion of the course, students should be able

i. To define justice and relate the concepts of Equality, Justice and Liberty in their life
ii. To list out the components of state and relate it with various doctrines
iii. To classify the state and government
iv. To assess and apply the growth of Individualism and Socialism in their life
v. To differentiate Western model of Secularism and Indian model of Secularism

Introduction to Hinduism

At the end of the course students will be able to

i. Describe the historical development of Hinduism
ii. Explain the basic concepts of God, Soul and the World of Hinduism
iii. Apply the beliefs and doctrines in day to day life
iv. Students will be able to utilize and evaluate the knowledge of Modern-day Hinduism
v. Relate Hindu values and apply them in personal life.

Modern Western Philosophy

On completion of the course, students should be able

i. The students will relate the concepts of modern western philosophy in their social life
ii. To recall the Tabula rasa and Theory of origin and development of knowledge
iii. The students will be able to distinguish between Transcendental Idealism and Absolute Idealism
iv. To analyse the concept of Pragmatism
v. Students will able to assess Socio - cultural background for the rise of Existentialism.

Sociological Theories – I

On completion of the course, students should be able

i. To recall classical thinkers and their theoretical contributions in Sociology
ii. To understand the meaning of key concepts used in theories
iii. To apply the theory of suicide in present context

iv. To evaluate the relevance of class struggle theory in social change
v. To ascertain the role of thinkers in developing core theoretical perspectives in Sociology

Modern Indian Thinkers

On completion of the course, students should be able
i. Recollect the Ancient Trends in Indian Philosophy
ii. Explain the different perspectives of modern thinkers in contemporary India
iii. Evaluate the thoughts of modern thinkers and its influence on society
iv. Classify the works of modern thinkers in the light of contemporary society
v. Apply the thoughts of Indian Philosophers in the Present-Day Society

Socio – Philosophical Issues in Films

On completion of the course, students should be able
i. The student will be able to use the fundamental ideas of film and philosophy
ii. Help the students to critically analyse and view the sociology of cinema
iii. Ability to relate their personal lives with the philosophy of movies.
iv. Able to identify philosophical and sociological concepts in cinema medium.
v. Able to demonstrate the philosophical and sociological views obtained from cinema

Introduction to Christianity

On completion of the course, students should be able
i. Prepare the students to have an overall knowledge of Christianity
ii. Orient towards the doctrines of the Scripture - The Bible
iii. Analyse the importance of the Church History in the spread of Christianity
iv. Assess various doctrines of Christianity
v. Apply the values learnt through this course in their lives

Contemporary Western Philosophy

On completion of the course, students should be able
i. Students will be able to describe the Husserl's phenomenological method
ii. To differentiate the concepts of post modernism
iii. To assess the early critical theory of George Lukas
iv. To analyze the Reality and Knowledge as aspects of human interests
v. To apply the Structuralist analysis of reality in their life

Sociological Theories – II

On completion of the course, students should be able
i. To recall different theoretical approaches in Sociology
ii. To explain the meaning of key concepts used in Sociological theories
iii. To appraise the relevance of Sociological approaches in the study of society
iv. To classify the functional aspects of conflict

v. To ascertain the role of interactionism perspective in understanding realities of everyday life

Introduction to Islam

On completion of the course, students should be able

i. Make the students to understand the history of Islam
ii. Students will be able to explain the beliefs and doctrines of Islam
iii. Enable the students to remember the holy scripture of Islam
iv. Students can explain the historical aspect of Islam in India
v. Students can relate Sufi faith and practices of Islam

Social Issues and Value Stand

On completion of the course, students should be able

i. The student will be able to remember the concept of values and its dimensions
ii. The student will be able to define Caste and explain its origin and features
iii. To distinguish between Sex and Gender and describe the concept of gender inequality
iv. To assess the concepts Secularism, Religious fundamentalism and its related issues
v. To gain awareness on human rights and demonstrate in their lives.

Positive Self Image Development

On completion of the course, students should be able

i. Able to identify the skills needed for positive self-image development
ii. To explain how self – image affects one's feelings attitudes and behaviour.
iii. To demonstrate effective ways of coping with having Win –Lose or Lose Win attitudes and relationships
iv. Able to Utilize and become proficient assertive skills in their personal life
v. Evaluate and Use the Win – Win Attitude in their professional life

Environment and Ethical Issues

On completion of the course, students should be able

i. To describe the concept of Eco System, its types, Structure and Functions
ii. To explain the threats and conservation due to Bio Diversity
iii. To utilize the knowledge of various pollutions and its causes and effects on environment in their personal and social life
iv. To relate human with nature and distinguish between Human Centric Environmentalism Vs Ecocentric environmentalism
v. To analyse Radical Ecology and Counter Cultural Movement

Introduction to Philosophy

On completion of the course, students should be able

i. Students will be able to describe the Nature, Scope and the methods of Philosophy

ii. Students will be able to distinguish between the Problem of truth and falsehood and problems of mind and body
iii. Students will be able to analyse the Methods and approaches in Philosophy
iv. Students will be able to use the values of philosophy in their life
v. Students will be able to assess the approaches to Indian philosophy

Social Anthropology: Origin of Man and Society

On completion of the course, students should be able

i. To identify the relationship between Nature, Society and Self
ii. To explain the basic concepts related to biological evolution
iii. To classify the stages of human evolution
iv. To compare between biological adaptation and socio-cultural adaptation
v. To distinguish between the types of primitive and intermediate societies

Understanding the Universe and Infinity

On completion of the course, students should be able

i. Able to explain the Conception of Universe through the ages
ii. To identify the Methods to measure the distances in the universe
iii. To generalize the life story of star
iv. To analyse the Theories on the origin of universe
v. To classify the Conception of Infinity

World Religions – I

On completion of the course, students should be able

i. Able to explain the basic concepts of religions in India
ii. To classify various religions and their beliefs
iii. To analyse different religious beliefs and relate them with their own beliefs
iv. To evaluate ancient religions and their traditions' impact
v. To apply religious values in their personal life

Ethics

On completion of the course, students should be able

i. To explain the nature and scope of Ethics and its values
ii. To analyse the Teleological Ethical Theories in Ethics
iii. To Use Deontological Ethical Theories in their social life
iv. Students are able to distinguish Hard and Soft determinism
v. Able to assess contemporary issues through ethical values

Elements of Philosophy of Science

On completion of the course, students should be able

i. To explain about Inductive and deductive reasoning

ii. To compare the Laws of Nature and Scientific method
iii. Students will be able to distinguish the subjective and objective probabilities
iv. To sketch the Carl Hempel's covering law model
v. Students will be able to determine the need for utilizing Demarcation of Science and Non-Science

World Religions – II

On completion of the course, students should be able
i. Able to explain the basic concepts of religions in India
ii. To classify various religions and their beliefs
iii. To analyse different religious beliefs and relate them with their own beliefs
iv. To evaluate ancient religions and their traditions' impact
v. To apply religious values in their personal life

Classical Indian Philosophy – I

At the end of the course students will be able to
i. Describe the divisions of Vedas and Upanisadic world views
ii. To explain the concept of Carvaka
iii. To apply the Jaina epistemology
iv. To analyse the four noble truths of Buddhism
v. To evaluate central concepts of Schools of Buddhism

Ancient and Medieval European Philosophy

At the end of the course students will be able to
i. To explain the early nature of philosophers
ii. To identify early philosophical methods of Socrates and Plato
iii. To appraise the Aristotle's theory of Reality and classification of science
iv. To assess the Augustine's Philosophy of Conception of soul, sin and salvation
v. To examine the Aquinas conception of knowledge and St. Anselm's ontological proofs

Classical Indian Philosophy – II

At the end of the course students will be able to
i. To explain the concepts of Samkhya – Yoga
ii. To describe the Logic and Epistemology of Nyaya - Vaishesika
iii. To compare the Svatahpramanyavada, Prabhakara and Kumarila Schools
iv. To analyse the concept of Advaita
v. To appraise the concepts of Visistadvaita and Dvaita

Social Structure in India

On completion of the course, students should be able
i. To identify the aspects of social structure and explain the different land tenure systems in India

ii. To define caste and describe Un-touchability and caste violence in India
iii. To analyse the problems of tribal people in India
iv. To evaluate the kinship system in India
v. To differentiate Agrarian class structure and Industrial class structure

Project in Sociology

On completion of the course, students should be able
i. To describe the nature and scope of social issues
ii. To identify the basic concepts related to research methodology in sociology
iii. To differentiate between Qualitative and Quantitative research
iv. To develop data collection tool on their own
v. To use different techniques research methods and able to write a research report

Introduction to Hinduism

At the end of the course students will be able to
i. Describe the historical development of Hinduism
ii. To identify the Scriptures of Hinduism
iii. To utilize the values of Tenents, Beliefs and Gods of Hinduism
iv. To assess the Theistic traditions in Hinduism: Saivism
v. Relate Hindu values and apply them in personal life.

Modern Indian Philosophy

At the end of the course students will be able to
i. To describe the Characteristic features of modern Indian thought
ii. To explain the different perspectives of modern thinkers in contemporary India
iii. To evaluate the thoughts of modern thinkers and its influence on society
iv. To classify the works of modern thinkers in the light of contemporary society
v. To apply the thoughts of Indian Philosophers in the Present Day Society

Introduction to Critical Thinking

At the end of the course students will be able to
i. To identify the Inductive and Deductive reasoning
ii. To explain the importance of Fallacious Reasoning
iii. To use Psychological impediments to good reasoning
iv. To classify Nature and types of arguments
v. To write assignments by using Critical thinking

Social Issues and Value Stand

At the end of the course students will be able to
i. The student will be able to remember the concept of values and its dimensions
ii. The student will be able to define Caste and explain its origin and features

iii. To distinguish between Sex and Gender and describe the concept of gender inequality
iv. To assess the concepts Secularism, Religious fundamentalism and its related issues
v. To apply values in their personal and professional life to promotion of value based society.

Introduction to Christianity

At the end of the course students will be able to

i. To explain the Elements of Christian Theology
ii. To describe the History of Christian ideas, institutions and ethical practices
iii. Analyse the content and themes of the Old Testament of the Scripture The Bible
iv. To assess Biblical and theological analysis of Church's nature and mission
v. Apply the values learnt through this course in their lives

Introduction to Islam

At the end of the course students will be able to

i. Make the students to understand the history of Islam
ii. Students will be able to explain the beliefs and doctrines of Islam
iii. Enable the students to remember the holy scripture of Islam
iv. Students can explain the historical aspect of Islam in India
v. Students can relate Sufi faith and practices of Islam

Skills for Career Development

At the end of the course students will be able to

i. Students will be able to utilize the career development skills learnt
ii. To explain the elements of Communication and Assertive behaviour and its types
iii. Students will be able to write their own resumes and face interviews
iv. Students will be able to redevelop Time Management & Team management skills
v. To explain and express leadership skills

Department of Biochemistry

Course Outcomes – B. Sc Biochemistry

Fundamentals of Biochemistry

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

i. Apply the knowledge on the preparation and importance of the various solution used in Biochemistry.
ii. Identify water as a biological solvent and the different transport mechanism of Molecules in living organisms.
iii. Compile the concept of molecules and compare the different bonds involved in the biological compounds.

iv. Demonstrate pH, pH measurement and buffer system in the human body.
v. Utilize the basic knowledge of the decimals and units in measurement of compounds.

Biomolecules

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

i. Identify the structure and functions of carbohydrates, proteins, lipids and nucleic acids.
ii. Recognize the structures of the monomers, their functional groups and the bonds in the formation of biomolecules.
iii. Explain the importance of lipids, PUFA & Omega fatty acids, and lipoproteins in humans.
iv. Recognize the importance of the three-dimensional structure of proteins in the maintenance of the shape and the role of non-covalent bonds.
v. Summarize the types of nucleic acids and the importance of vitamins and minerals in cell function.

Biomolecules Lab

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

i. Describe the different preparation of standard solutions and the numerical problems associated within.
ii. Create methods for isolation and detection of different biomolecules.
iii. Analyse the quality of oil through various parameters.
iv. Prepare the buffer solution and identify the pH values of different foods for consumption.
v. Determine the different concentration of organic constituents in solution.

Biochemistry I

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

i. Outline the importance of metabolism of amino acid and urea cycle.
ii. Discuss the classification, nomenclature, basic concepts and the importance of enzyme kinetics.
iii. Identify the energy yielding pathways involved in carbohydrate metabolism as immediate source of energy.
iv. Explain the importance of lipids and their significance in energy production.
v. Compile and demonstrate the different vitamins, minerals & their daily requirements for the physiological function of human body.

Biochemistry I Lab

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

i. Use colorimeter to detect different concentration of organic and inorganic constituents in solution.

ii. Detect the lactose level in milk.
iii. Analyse the activity of salivary amylase on starch.
iv. Separate lecithin from egg yolk.
v. Analyse the ascorbic acid, iron, riboflavin and lycopene content by using different method from natural sources.

Wonders of Human Body

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

i. Communicate the wonders of brain function, chest, stomach and pregnancy.
ii. Demonstrate the uniqueness of brain cells and sense organs.
iii. Rate the mass organ liver and super acid in digestion.
iv. Explain puberty, fertilization, gestation and lactation.
v. Explain the importance of biomolecules in growth, development and energy production in humans.

Food Technology

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

i. Outline the concept of food and importance of food quality and safety.
ii. Analyse the types of food adulterants and its effects.
iii. Identify the media and methods of cooking andthe importance of additives enhance quality of food.
iv. Demonstrate the importance of food processing and preservation.
v. Apply the knowledge of preparation of different food products at small scale.

Cell Biology and Genetics

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

i. Explain the basic concept of structures, properties, functions, differences of prokaryotic and eukaryotic cell and the use of microscope in cell identification.
ii. Demonstrate the different models proposed on the structure of cell membrane and the structure & function of the different organelles of a cell.
iii. Explain the types of cell divisions, their regulation and cell to cell interaction.
iv. Communicate the Mendelian principles and demonstrate the different experiments to predict the gene interaction and the influence of environment.
v. Outline the variation in gene frequency and demonstrate the various alteration of chromosome.

Human Physiology

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

i. Identify the relationship between anatomy & physiology and the major levels of organization from molecules to organism.

ii. Recognize and identify the principle tissue, major components, regulation and functions of physiological systems.
iii. Communicate the importance of blood in transport and supply nutrients to whole body.
iv. Explain the action potential in skeletal muscle, heart muscle, and the use of electrocardiography, electromyography, special senses and functions.
v. Describe the mechanisms of digestion, breathing, hemodynamics, formation of glomerular filtrate and fertilization.

Cell Biology, Genetics & Human Physiology Lab

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

i. Isolate the cellular organelles from plant and animal sources.
ii. Analyse the various stages of cell division and plasmolysis from natural sources
iii. Evaluate the Mendelian problems and Hardy-Weinberg equilibrium-based problems.
iv. Detect the haematological parameters and blood pressure.
v. Detect hearing sensitivity and colour vision.

Biochemistry II

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

i. Explain the different endocrine glands with concepts and functions of hormones in regulation of metabolism.
ii. Discuss the major disorders associated with carbohydrate and lipid metabolism.
iii. Evaluate the disorders of protein metabolism, jaundice and urea cycle.
iv. Explain the metabolic pathways and disorders associated with nucleic acid.
v. Identify the deficiencies concerned with vitamins and minerals.

Biochemistry II Lab

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

i. Analyse the organic and inorganic constituents of urine under normal conditions.
ii. Analyse the organic and inorganic constituents of urine under diseased conditions.
iii. Analyse the serum proteins and its by-products by using different methods.
iv. Determine the amount of glucose and cholesterol in blood.
v. Analyse by different methods the amount of bilirubin and uric acid in blood.

Medical Fitness and Health

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

i. Discuss the importance of various organs and the maintenance of good health in a person and rate the physiology of learning and memory.
ii. Outline the importance of healthy eating, social identity and psychological development in human.

iii. Compare the importance of physical and mental fitness in stress management.
iv. Demonstrate the relationship between body, mind and personality development.
v. Identify the importance of master health check-up and biochemical tests on mental and physical fitness.

First Aid

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

i. Demonstrate the ABC rule during emergency management.
ii. Apply first aid in household emergencies.
iii. Equipped to perform CPR, AED and Heimlich manoeuvre during major emergency situations.
iv. Plan to render first aid in special conditions and disasters.
v. Discuss the guidelines of first aid offered by various national and international organizations.

Metabolism

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. Analyse 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.

Enzymology

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. Analyse the knowledge of immobilization and applications of enzymes in food, medicine, industries, genetics and their future potential.

Nutritional Biochemistry

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.

Metabolism, Enzymology and Nutritional Biochemistry Lab

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

i. Analyse the activity of salivary amylase, urease, catalase, SGOT/SGPT.
ii. Utilize the standard methods for estimation of amino acids, iron, ascorbic acid, phenolic compounds and inorganic phosphate from natural sources.
iii. Asses the BMI and its importance.
iv. Demonstrate the assay technique of vitamin A.
v. Demonstrate the titration curve of amino acids and the pKa value.

Immunology

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.

Medical Microbiology

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

i. Discuss the most important discoveries and inventions for the development of microbiological diagnostics.
ii. Explain the classification, structure, morphology and life cycle of medically important microorganisms.
iii. Interpret the diversity in the microbial flora, microbial biofilms, and the factors that limit microbial growth.
iv. Apply the knowledge on the pathogenesis of a disease, transmission, interventions for effective treatment and health maintenance.

v. Explain the microbial resistance development and the hygiene, precautions and regulations to be followed in disease management.

Clinical Biochemistry

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 haematological 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. Analyse the advancements and application in diagnostic clinical biochemistry.

Cancer Biology

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 tumour suppressor gene and regulatory factors involved in cell death.
v. Identify the detection methods in treatment of cancer.

Medical Microbiology & Clinical Biochemistry Lab

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

i. Demonstrate the standard lab safety protocols and maintenance of aseptic environment.
ii. Demonstrate specimen preparation and competency of various staining procedures and interpretation.
iii. Apply the competency in bacterial sampling, culture techniques and enumeration of bacteria.
iv. Analyse the normal and abnormal constituents of urine.
v. Assess the major organic and inorganic constituents of blood by various standard methods.

Molecular Biology and Genetic Engineering

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

i. Communicate nucleic acid as a genetic material from various experiments.

ii. Compile the structure, mechanism of replication, repair, transcription and translation of genetic material and proteins.
iii. Recognize the various levels of gene expression and regulation in prokaryotes & eukaryotes.
iv. Describe the restriction enzymes, molecular cloning, recombination and DNA sequencing.
v. Analyse the applications of rDNA technology in the field of Medicine, food and industries.

Analytical Techniques

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

i. Identify the different cell separation techniques and use of microscopy in cell identification.
ii. Demonstrate spectroscopy and centrifugation procedure in analysis of compounds.
iii. Explain the importance of separation of compounds using the various chromatographic and electrophoretic techniques.
iv. Explain the application of radioactive isotopes in recent diagnostic field and disease management.
v. Apply the knowledge of different separation and analytical method in identifying new compounds.

Pharmacology & Toxicology

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

i. Explain the basic knowledge of drugs, its action and forms of modification by the organs for excretion.
ii. Compile the interaction of drug in the body for its therapeutic effects and regulation.
iii. Discuss the importance and applications of antibiotics and chemotherapy for various infectious diseases.
iv. Evaluate toxicity, detoxification processes and the several abnormal actions of drugs.
v. Discuss the toxic effect of drugs and their impact on major organs of the body.

Molecular Biology and Analytical Techniques Lab

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

i. Determine the methods of isolation and estimation of nucleic acids.
ii. Analyse the separation of biomolecules using chromatography and electrophoretic techniques.
iii. Demonstrate the Ag-Ab interactions by various immunological techniques.
iv. Separate the natural pigments from natural sources by chromatographic methods
v. Separate different components using density gradient centrifugation.

Forensic Science

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

i. Discuss the role and scientific principles of crime scene investigation, reconstruction, evidence collection and preservations.
ii. Evaluate the importance of the interactions between law enforcement, forensic scientists and the legal profession.
iii. Demonstrate physical evidence recognition, collection, preservation and admissibility of biological evidence using latest techniques.
iv. Recognize the types, effects, detection of poisoning and law enforcement agencies.
v. Describe the legal ethics involved in forensic evidence with the mention of sociological aspects that provokes crime.

Environmental Studies

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

i. Discuss the earth stature, components and the biogeochemical cycles of the environment.
ii. Analyse the interaction of various components in the different ecosystems and the energy flow within.
iii. Identify the pollutants, control measures for different pollutions and management of natural and artificial disasters.
iv. Assess the environmental global issues, protection acts, conservation and public health awareness.
v. Compile the flora and fauna of different ecosystem in rural and urban areas.

Plant Biochemistry

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

i. Describe the structure, organization, the various biosynthetic pathways, biochemical functions of a plant cell.
ii. Discuss the capture of light energy to provide the chemical forms of energy to power the growth and functions of cells.
iii. Predict the fixation, absorption and deficiency of nutrients and the role of biofertilizers in plants.
iv. Analyse the biosynthesis and role of plant hormones in growth and development.
v. Outline the significance of secondary metabolites in defense mechanism of plants.

Protein Chemistry and Proteomics

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

i. Identify the classification, composition and function of amino acids and proteins in human.

ii. Analyse the structural hierarchy and the complex architecture of biologically important proteins.
iii. Discuss the importance of protein sequencing in identifying novel proteins.
iv. Explain the advancement of proteomics and application in identification of new organism.
v. Apply the knowledge of proteomics in identification of novel proteins.

Hormones and Behaviour

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

i. Explain the synthesis, metabolism and secretion of hormones.
ii. Discuss the role of hormones on sexual differentiation and various human behaviours.
iii. Identify the changes in transgender and response of the society.
iv. Discuss the effects of gonadal hormones on men and women
v. Explain the importance of hormone on cognition.

Plant Biochemistry, Protein Chemistry & Hormones Lab

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

i. Analyse the physiological responses of plants under stress condition.
ii. Analyse the isolation and extraction of plant pigments from various plant sources.
iii. Isolate and estimate protein by different methods from natural sources.
iv. Analyse the hormones like HCG and thyroid hormones.
v. Communicate invitro protein digestibility and protein sequencing.

Clinical Diagnostics

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

i. Explain the basic skills of sample collection, handling and preservation.
ii. Analyse the clinical manifestations of blood, urine and CSF.
iii. Discuss the organ function tests and biochemical parameters in diseases.
iv. Analyse the diagnostic procedures for various infectious diseases.
v. Explain the methods of blood transfusion, cross matching and function of blood bank.

Department of Botany

Course Outcomes – B. Sc Botany

Learning Basic Skills in Biology

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

i. see the growth of botanical studies from a exploratory standpoint that they shall be entrained to appreciate the idea of conceptualizing a botanical thought that no less sooner

they will acquire skills to build their own cognitive capabilities by resorting to perform appropriate and suitable experiments

ii. acquaint themselves with the contours of communications and equip themselves adequately with the reading writing, listening skills and master the ability to make graphical and pictorial presentations of their ideas to get groomed as a budding botanist

iii. familiarize themselves with the scientific conventions of making scientific measurements, data collections and data interpretations that a professional training needed to initiate original scientific discoveries and pursue career in leading scientific discourses later in life is provided

iv. find themselves nurtured with personality development and leadership traits to set proper goals, develop problem solving abilities, plan and schedule events that they may eventually emerge as mangers and custodians of nature

v. turn confident in hiring the services of the emerging frontiers of computational technology and ICT tools to emerge as an updated, informed, tech savvy, skilled learner and a technician that he shall be vested with a competitive edge to compete with his peers in effectively realizing their dreams and ambitions of life

Ecology and Learning Basic Skills in Biology- Lab

At the end of the Semester, the Students will be able to

i. List different varieties of mushroom, distinguish between edible and non-edible and classify them.

ii. characterize, compare the cultivating mushroom and trace the lifecycle.

iii. experiment the cultivation procedure, design new culture technique, analyse the pest and factors affecting growth of mushroom.

iv. develop technologies for harvesting, packaging and acquire knowledge to avail loan from banks

v. Summarize uses of mushroom and create new recipes for marketing.

Food and Nutrition

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

i. comprehend the idea of defining food as a concept, classify foods, identify palatable nutritious meal, traditional and ethnic food and get idea on dealing with food security and hunger

ii. fortify the value of food by knowing the need and methods of coloring it with suitable colorants, adding flavor factor attributing and fixing desired physical and chemical properties that the art and procedure of coloring is mastered

iii. gain a knowledge on the types of food preservative used and understand the limitation in terms of the clinical impact, shelf life and expiry details besides evaluating the significance of sweeteners, emulsifiers and probiotics that the health and market issues of food preservation is clearly elucidated

iv. distinguish the types of food adulteration, know the methods of checking food quality in the light of legal implications and food laws that the flipside of consuming low-quality food on human health is realized
v. acquire the needed skills from the dietary point of view to classify food, define balanced diet, and do BMI calculations for carrying out comparative analysis of food types for securing gainful employment in food industry.

Plant Biology I

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

i. look at plants on earth with a geological and geographical perspective and recognize their placing in the five-kingdom classification, an arrangement in which algae can be shown as the progenitor of the plant world with a special emphasis on its own ecological and economic potential
ii. describe the general characters of bryophytes, classify liverworts, hornworts and mosses as the structure and reproduction of Riccia and the alternation of generation in mosses are scrutinized in the process of highlighting the ecological and economic importance of the group
iii. present pteridophytes as first land plants and explain their general character and life cycle with morphology and reproduction of Pteris as a case study to illustrate the nifty-gritty and diversity of ferns and explore their ecology and evolutionary significance
iv. describe and characterize gymnosperms as the constituents of the early forests of planet earth keeping a closer watch on Pinus, explaining its external and internal morphology, reproduction and seed formation and use the study to find the feasibility of cashing on industrial and domestic utilities
v. trace the origin of flowering plants, defining a flower and a fruit and gain an overview on the Bentham and Hooker‟s classification to deal with floral biology and study the significance of fruits and seeds

Plant Biology- I

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

i. identify the diverseness of various plant forms in their own habitats in day to day life and do comparative study of structure and reproduction of thallus forms to higher plants.
ii. to distinguish species in a selective ecosystem. with the knowledge he acquired about the anatomical variations among the lower plant forms which differentiates terrestrial plants from aquatic habitats.
iii. categorize the tissue organization in thallophytes, pteridophytes and gymnosperms.
iv. classify the flowering plants by investigating the floral structures of the given plant and identify the family to which the particular plant belongs to.
v. describe the economic importance of plants with specific attention to the plant produces from which he is benefited in life.

Economic Botany

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

i. recognize and enlist economically important plant resources of Madurai market and those species that have applications as fodder, forage and feed and make an assessment on the scope of bioprospecting lesser known crops using their wild relatives
ii. take home a comprehensive knowledge on organic farming and do case study at Madurai context focusing on soil and water management and pest control contemplating on Climate Smart Agriculture
iii. realize the importance of folk and traditional medicine of the region, prepare an inventory of raw drugs and NTFP investigating the ethno botanical practices to probe the export potential of local plants under existing legal provisions
iv. concentrate on fiber yielding plants to assess the commercial value of popular fibers, find innovations in coloring of fibers that value additions are made to harp on the assessment of export potential
v. locate natural sweeteners such as palm, sugarcane, Stevia and honey and also non-alcoholic as well as fermented plant beverages that are known traditionally in small time trade in local markets and use them in innovative entrepreneurial ventures.

Horticulture & Post Harvest Technology

At the end of the Semester, 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 culturing horticultural crops, experiment the procedures in cultivating crops
iii. Apply knowledge to develop physical protections and growing structures in their own terrace and garden.
iv. Examine harvested produce; evolve new technology for processing and storing the horticultural produce.
v. Apply knowledge to conserve native varieties and appraise the farmer's performance and rights.

Lab II (Economic Botany and Horticulture)

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

i. 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
ii. build different protection facility, construct plant growing structures, practice horticultural propagating techniques such as cutting, layering for multiplication of plants, prune the plants for effective growth.

iii. harvest of plant produce, process vegetables and fruits, Use flowers for decoration, collect and document native varieties of seeds

Nursery and Gardening

At the end of the Semester, the Students will be able to

i. Identify the varieties of plants maintained in a nursery, forecast the risk of climatic factors affecting nursery plants, create facilities of his own.
ii. Develop seed storage strategies, track the pest and evolve the right method to control them.
iii. Specialize himself in cultivation technique and manage the nursery.
iv. Categorize the plants, select right choice of the plant for different gardens and develop himself as a entrepreneur
v. Recognize the various types of parks and gardens in his locality, appreciate the role of parks in society thereby conserving it.

Plant Wonders

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

i. relate plants and civilization, identify plants as source of food, fuel, energy.
ii. acquire knowledge about various life forms of plant, able to benefit from the uses of plants
iii. describe the amazing plants, utilize plants as fertilizer
iv. rank the plants according to their magnitude, identify the indicators of pollution and minerals
v. discover plants in various extreme environment, discuss the plants adaptation.

Plant Biology II

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

i. look at plant as a functionally self-contained entity and use the understanding on mechanics and structures for water and mineral uptake, transport and utilization in their cells and tissues as model system to create and fabricate machines, filters and devices of human utility modelled on the inputs they have received from this course
ii. understand the translocation of food and sap, regulation water and food transport , ventilating mechanism with a role for stomatal apparatus, and process of liquid loss from hydathodes and lenticels that the heat release and hydraulic components of plant function can be analyzed for adoption in designing relevant production and processing units required for industrial and environmental applications
iii. look at chloroplast as photovoltaic battery involved in thermodynamic functions that the light trapping, transfer and transduction processes are elucidated as functions initiated by chlorophyll form from the biophysical viewpoint and the role of phytochromes and

cryptochromes are interpreted as environmentally regulated switches with precision ad sensitivity.

iv. critically look at the paradox of nitrogen as a common as well as scarce resource to plants and evaluate the nitrogen cycle and the prokaryotic process nitrogen fixation that serves as source of nitrogenous input and look at nitrate reduction and amino acid synthesis that form the hub of nitrogen metabolism.
v. gain an overview of plant growth & development in outline, study plant growth promotion and regulation by auxins, gibberellins and cytokinins besides ABA and ethylene that they may acquire the prowess of commercially manipulating plant development to their own advantage.

Plant Biology II

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

i. investigate the movement of food and water through the specialized tissues, intercellular translocation in plants with the influence of environmental factors.
ii. analyse the external factors which brings changes in the physiology of plants through live experiments.
iii. equipped himself to calculate the duration, rate of reaction and measurements of various physiological reactions.
iv. explore the movements in plants with response to different stimuli and analyse the role of microbes in fixing atmospheric nitrogen which the plants cannot able to do.
v. apply the knowledge of growing plants in soilless environment with the supplement of mineral nutrients.

Microbiology and Phycology

At the end of the Semester Students will be able to

i. Analyse the origin and diversity of life forms through the contributions of pioneering scientists in order that the role played by microbes in day to day life is understood.
ii. Assess the characteristics and classification of viruses and use the knowledge in identifying and interpreting the diseases
iii. Distinguish the characteristics, classification, growth, reproduction of bacteria and Cyanobacteria and find out agronomic significance.
iv. Recognize the major groups of algae as a unique entity of biota and to know their life cycle and affinities.
v. Catalogue harmful and beneficial microbes and find out ways of effective commercialization.

Genetics and Plant breeding

At the end of the Semester, the Students will be able to

i. Conceptualize the laws governing our inheritance, Compare and contrast the allelic and genic and polygenic interaction.

ii. Acquire knowledge about chromosome organization and recognize sex- and sex-linked inheritance.
iii. Formulate hardy Weinberg law, assess the effect of mutagens and appreciate the traits in humans.
iv. distinguish between qualitative and quantitative traits, expertise in various methods of breeding.
v. Represent the right of farmer and breeder, adapt strategies to develop resistant varieties and gain knowledge and practical experience in the activities of breeding and conservation centres.

Archegoniatae

At the end of the Semester, the Students will be able to

i. comprehend the evolution of morphology of various group of plants, their ever-changing life cycle pattern and the sex organs in plants
ii. understand the salient features of liverworts "the amphibious plants" on earth with their adaptive features of the three major groups and its ecological significance
iii. evaluate the rise of vascular plants through learning the classification and features of primitive land plants which exhibit the important character of seed-bearing nature called heterospory
iv. correlate and analyse the relationship between the ferns and the true land plants "the gymnosperms" and which proceed to the study of angiosperms
v. justify the rise of green plants from their single cell ancestors by studying the historical evidence of fossils through ages.

Lab III (Micro+Arche +Genetics)

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

i. The students will be able to carry out basic microbiological techniques like sterilization, media preparation and culture methods that they would be independently equipped to explore the microbial world by conducting appropriate experiments.
ii. The students will be able to the investigate the habitat of cyanobacteria and other higher algal forms during the field study and daily walk of life that they shall draw comparative analysis of thallus structure and life cycle patterns as when needed.
iii. understand the algal world
iv. verify Mendel's laws, test the purity of gametes, identify the interaction between alleles and distinguish various gene interaction, identify different blood group in human, familiarize with polygenes which influences quantitative traits, determine sex of animals, categorize human traits as dominant and recessive and perform probability test for gene inheritance.
v. test viability of seed, experiment with emasculation techniques and familiarize with different hybridization techniques by visiting plant breeding stations.

Botany for Chemists I

At the end of the semester, 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 an 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

Botany for Chemists – Lab I.

At the end of the semester, 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

Mycology & Pathology

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.

Cell Biology

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

i. write a brief resume of cell science, explain the organization of prokaryotic cell, fine structure of an eukaryotic cell and see it as product of endosymbiotic theory which with plastome and the plastids shall be establishing the uniqueness of plant cells
ii. demarcate cell surface with cell wall and membranous envelope along with understanding on its molecular anatomy and the colloidal nature of protoplasm that draws a line between life and non-life
iii. identify the structural and functional significance that endomembrane offer to the sub cellular compartments and see the vitality of GERL complex and the importance of vacuoles and microbodies as single membrane entities besides the chloroplast and mitochondrion the double membrane structures closely associated with energetic
iv. fix cell duplication process in the spread of cell cycle events and distinguish direct, indirect ad reduction division as unique and discrete processes and find a role for cytoskeleton and cytokinesis conferring meaning to multicellularity and development
v. familiarize themselves with the theory and practice of using compound microscope, variants of LM and EM, cell fractionation and density gradient centrifugation that cell fractionation is done with precision for pursuing further studies

Anatomy and Reproductive Biology of Angiosperms (ARBA)

At the end of the Semester, the Students will be able to

i. recognize different types of cells and tissues in plant anatomy. Integrate the theories on meristem.
ii. Conceptualize the primary structures in plant parts, Differentiate between secondary and anomalous structures.
iii. Describe the structure of stamen and pistil, appreciate the development of pollen and embryo sac.
iv. Identify the agents of pollination, examine the embryo and endosperm in a seed.
v. gain confidence in sectioning, effectively use stains for staining and utilize technology to develop parthenocarpy.

Lab IV (myco+cellbio+arba)

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

i. At the end of the semester students will be able to understand characteristic features and habitats of micro fungi. Field studies to analyse macrofungal diversity in the locality and their role in environment.
ii. Analyse the epidemiology and management of major plant diseases in and around Madurai region. Apply the recent diagnosis methods and practices for effective management of plant diseases.
iii. obtain the larger picture of a cell

iv. distinguish between different types of cells and tissues, view the difference between shoot and root region through anatomical section, equip in maceration techniques, evaluate the quality of wood.
v. identify the different parts of reproductive structure, dissect an embryo from the seed, develop polyembryo seeds, utilize the pattern of placentation design in screen printing.

Botany for Chemists II

At the end of the Semester, 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

Botany for Chemists II – Lab

At the end of the semester, 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. understand the importance of alternate fuels like biogas

Plant Systematics

At the end of the Semester, the Students will be able to

i. experience and admire the morphological variations in plants and the contributions of various people in terms classification of plants may pave way to conservation.
ii. engross the importance of rules in the naming of plants and its importance in the field of taxonomical research and enlightened about other fields of high reputation related to plant systematics.

iii. keep himself amused to know the floral characters and economic importance of select families in the group Polypetalae and their phylogenetic relationship with other plant groups
iv. contemplating upon the floral characters and economic importance of select families of Gamopetalae and their phylogenetic relationship will enlighten further to appreciate and save the nature given chow.
v. take pleasure in investigating the floral characters and economic importance of select families of Monochlamydeae & Moclootyledonae and their phylogenetic characters which will make them enjoy and formulate the ways to sustain.

Biochemistry

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

i. Picturize the array of molecules in a living cell and understand how different chemicals interact among themselves in establishing the cellular basis of life.
ii. explore the various sources of carbohydrates, structural and functional properties and evaluate its significance
iii. understand lipids as an important source of reserve food and emphasize on their vitality in cell membranes, besides referring to the dietary significance of vitamins
iv. Comprehend proteins and nucleic acids as important heteropolymers offering to heterogeneity as well as specificity to cell functions.
v. Categorize different enzymes and recognize its role in driving biochemical reactions with specificity and use this knowledge eventually for commercial ventures

Analytical Techniques and Research Methodology

At the end of the Semester, the Students will be able to

i. follow the standard and good laboratory practices and observe safety norms at every stage of work and be confident in handling basic science experiments
ii. confidently and independently use spectrophotometer and its variants and effectively perform analytical work and do quantitative measurements with accuracy
iii. understand how the principle of centrifugation, chromatography, electrophoresis and blotting techniques can be utilized to resolve queries in plant biochemistry
iv. design and carry out scientific enquiries doing sampling , surveys, and statistical analysis employing data collection and analysis using suitable statistical tools
v. design and execute science projects recalling the training they had undergone in making scientific observations showcasing skills developed in thesis writing report writing and in making scientific presentations

Lab V (Plant Systematics and Biochemistry)

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

i. appreciate the plant kingdom

ii. differentiate the various forms of plant diversity
iii. learn the economic importance of plants
iv. have hands on experience with biochemical instruments
v. extract secondary metabolites from plants

Medicinal Botany

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

i. Quote the names of physicians and literature related to Indian medical practices.
ii. Distinguish various medical practices.
iii. identify medicinal plants, describe its morphology, add medicinal knowledge about locally available plant.
iv. do cultivation practices of certain medicinal herbs, learn processing, storing and packing of medicinal produce.
v. practice preparation techniques of siddha medicines, commercialize the products.

Environmental Studies

At the end of the Semester, the Students will be able to

i. look at the nature differently so that one can appreciate and take efforts to conserve it in order to use the resources wisely and sustainably
ii. comprehend the relationship between the Ecosystem and the Community better and also have a better insight on the population
iii. cope up with all kinds of pollution and the treatment of pollutants through the study of several worst-case scenarios of different degrees.
iv. understand better the ever-changing climates and its effect on the elements of an ecosystem so that effective combating measures could be taken in a swift manner
v. formulate proper environmental policies on conservation of nature and energy through phytoremediation in order to create a green and clean environment

Plant Biotechnology

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

i. realize the potential of the in vitro technique and capitalize on the knowledge to take up jobs and employment in plant tissue culture industries or starting their own plant production and plant propagation units to propagate and market elite planting stocks
ii. apply their understanding on DNA techniques , plasmids, vectors, Ti plasmids to vocationally use them in r DNA processes that they take up gainful employment in plant genetic engineering laboratories within and outside the country.
iii. hire the experience gained in handling biological data bases to access genomic and proteomic data vested with NCBI, EMBL, DDBJ and other leading molecular biology research centers and lab that show themselves ready for job ready for contemporary innovations and breakthroughs.

iv. benefit from identification and characterization of potential microbes to pursue strain development, designing culture equipments and fermentors suitable enough to produce a host of fermented products for SSI and MSI commercial entrepreneurial ventures
v. try their luck in making useful secondary metabolites from plants, biotransformation and cell immobilization, SCP, plant vaccines and marketable enzymes, biofuels and gm crops with due consideration of issues of bioethics and biosafety that shall launch many agro biotechnological initiatives using the skilling

Entrepreneurial Botany

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

i. pragmatically asses the scope of using the knowledge gained in learning Botany for gainful applications by starting own business ventures.
ii. evaluate the feasibility designing projects of their own in the model of the various case studies they have investigated in this course.
iii. work out the breakeven of small-scale business ventures and evaluate the feasibility of value additions in the project the break grounds for achieving cost effectiveness
iv. tap agencies that can possibly provide full or partial support to kick start their projects that stabilize the same for making their livelihood
v. assess the market worth of their entrepreneurial exercise and clearly rate the viability considering the opportunities and risks matching it with that of their peers and competitors on real time basis.

Bioresource Management

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

i. classify landscapes and waterscapes using geological and geographic inputs and analyse the current status of mineral resources of our country
ii. identify fresh water and marine aquatic resources and wet land ecosystem and develop appropriate techniques for water shed management and water resource management
iii. analyse the biological wealth of our country as a potential resource and integrate its use with the need for conservation
iv. understand agriculture as a main resource of food production and assess the Indian and international strategies for food management
v. develop strategy for conservation, policies specific to Indian scenario and effectively manage the resources.

Botany Project

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

i. gain an hands-on experience of personally designing and executing a research enquiry based on accepted scientific norms

ii. gather basic information, details and preliminary data based on which his/ her research will be positioned
iii. garner skill is making scientific observations that ability to collect and collate meaningful information will be fortified
iv. galvanize arguments based on the strength of drawn from the statistical tools and tests used for analysing the data
v. garnish his/her findings in the approved format that even the little original information honestly generated in the study will be added on the exciting body of knowledge known to the scientific community

Plant Physiology

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

i. characterize water physical and chemical nature. Experiment with plants to prove conduction of water and photosynthesis.
ii. tabulate macro and micro nutrients needed by plants, observe nitrogen fixers and their role, enrich the soil using minerals
iii. distinguish between photosynthetic and non-photosynthetic pigments in plants, evaluate the efficiency of photosynthesis in plants
iv. describe glycolytic pathway and subsequent pathway leading to the synthesis of ATP, assess the respiratory quotient of various substrates
v. experiment with hormones to evaluate the efficacy of hormones in improving the growth of plants, observe rhythmic movements and responses in plants

Biofertilizers and Biopesticides

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

i. understand the ancient agricultural practices and protect the environment from the recent indiscriminate, avaricious anthropogenic onslaughts that the extent of damage done is at least be mitigated.
ii. assess the advantages of organic farming with as an alternative to use of anthropogenic chemicals that biofertilizers and natural means of crop protection including the advocacy of IPM can ensure profitable farming.
iii. analyse the various forms of microbes as suppliers of organic nutrients, including nitrates, phosphates enriching the soil that would eventually have a bearing on the methods of cultivation with enhanced nitrogen supply.
iv. apply the knowledge of using biopesticides without harming the coliving microbiota and life forms in the ecosystem that the use crop protection chemicals can be avoided to safe guard environment.
v. use the acquired knowledge needed to prepare eco-friendly commercial formulations meeting national and international standards and regulations and float newer entrepreneurial ventures

Edible Mushrooms

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

i. List different varieties of mushroom, distinguish between edible and non edible, and classify them.
ii. Characterize, compare the cultivating mushroom.
iii. Experiment the cultivation procedure, design new culture technique, analyze the pest and factors affecting growth of mushroom.
iv. Summarize uses of mushroom and create new recipes for marketing.
v. Obtain training from agricultural institutes

Plant Propagation

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

i. acquire knowledge of plant propagation technique and its application
ii. get vast information on various plant growing structures
iii. create skills in the art of plant propagation by vegetative cuttings
iv. create skills in the art of plant propagation by seeds
v. update the technique of plant propagation using micropropagation tool.

Plantation Crops

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

i. recognize the important plantation crops that contribute to the commercial side of the agricultural economy
ii. appreciate how these crops help to conserve and foster ecological balance and at the same time offer the livelihood to the rural masses
iii. develop a comprehensive idea to rear plantation crops in India at diverse agro-climatic profile
iv. analyse and develop strong market intelligence and harness the potential to provide a competitive edge to the Indian farmers
v. familiarise themselves and put into practice the knowledge gained using the produce harvested/gathered from plantation crops that they may eventually take entrepreneurial ventures advocating and promoting value added products

Organic farming

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.

Department of Chemistry

Course Outcomes – B. Sc. Chemistry

Physical Chemistry-I

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

i. Deduce the gas laws, compute velocities of gas molecules, explain various properties of gases
ii. Criticize the deviation of ideal gas behavior from real gas, deduce equations of state, explain the liquefaction of gases
iii. Describe the properties of liquids, classify liquid crystals and discuss electric and magnetic properties of molecules
iv. Classify colloids and illustrate its properties and application
v. State adsorption and its related terms, classify adsorption, deduce various adsorption isotherm and apply adsorption for various applications and ion exchange process

Inorganic Chemistry-I

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

i. identify and interpret the atomic properties of elements in the periodic table, and explain electronegativity
ii. describe the various metallurgical processes and predict the feasibility of redox reactions
iii. explain the acid - base concepts, classify and relate their strength and illustrate the reactions in different solvents
iv. define forms of hydrogen, explain the properties of s-block elements and compounds
v. calculate the strength of solutions in different scales and explain the principles and types of titrimetry.

Inorganic Quantitative Analysis - Volumetric

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

i. handle the apparatus effectively
ii. prepare standard solutions and inorganic complexes
iii. estimate the unknown quantity of the analyte by choosing standard methods
iv. perform instrument handling, note book entry and calculations
v. propose methods to analyze quantitatively commercial and environmental samples.

Chemistry for Biochemist – I

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

i. Explain theories of chemical bonding.

ii. Describe hybridization, nomenclature, types of organic reactions and reaction intermediates.
iii. State and explain thermodynamic parameters.
iv. Explain the mathematical expressions for pKa, pKb, Ksp, Henderson equation and describe osmosis.
v. Illustrate principles and applications of nuclear chemistry and radioactivity.

Chemistry for Botanist – I

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

i. Write electronic configuration and illustrate periodic properties
ii. Explain different forms of chemical forces in inorganic compounds
iii. Write IUPAC nomenclature, illustrate types, hybridization, functional group and reactions in organic compounds
iv. Define pKa, pKb and pH and list the types of solutions
v. Classify amino acids, proteins, carbohydrates, explain their properties and applications

Chemistry Lab for Botanists–I

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

i. Identify and handle volumetric apparatus
ii. Estimate acids, bases and metal ions (Fe, Zn) in given solution
iii. Perform experiments to analyze commercial samples like pyrolusite and vinegar
iv. Prepare metal nano particles by green method
v. Determine quality parameters in water, food samples and tablets

Chemistry Lab for Bio-Chemistry-I

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

i. Identify and handle volumetric apparatus
ii. Estimate acids, bases and metal ions (Fe, Zn) in given solution
iii. Perform experiments to analyze commercial samples like pyrolusite and vinegar
iv. Prepare metal nano particles by green method
v. Determine quality parameters in water, food samples and tablets

Chemistry in Everyday Life

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

i. Explain the physical properties and qualities of various water
ii. Describe the role of agrochemicals
iii. Explain the importance industrial materials
iv. Classify explosives and discuss their role
v. Define drugs and their types

Dairy Chemistry

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

i. Describe physical properties, composition, structure and constituents of milk
ii. Discuss the microbiology of milk and various pasteurisation techniques
iii. Explain composition, chemistry of milk derivatives and Identify the common adulterants in ghee
iv. Define and construct the flow chart for manufacturing various kinds of special milks
v. Describe various milk products

Cosmetics and Consumer Products

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

i. List the constituents of hair and hair colorants
ii. Explain various cleansing agents and formulation
iii. Identify the ingredients in cleansing agents
iv. Prepare candle, chalk and crayons
v. List out the ingredients of ink and shoe polish

Organic Chemistry – I

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

i. Give IUPAC nomenclature to organic compounds and determine the empirical and molecular formula.
ii. Explain the fundamental concepts behind organic reactions, reaction intermediates and purification of organic compounds.
iii. Illustrate and analyse the stereochemical and conformational aspects of organic compounds.
iv. Discuss preparation, properties and reactions of alkanes and cycloalkanes.
v. Apply the Markownikoff's and Saytzeff's rule to identify the product formation and identify various ways for synthesizing alkenes, alkadienes and alkynes along with their reactions.

Inorganic Chemistry-II

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

i. discuss and apply various bonding theories to molecules
ii. apply radius ratio rule and Fajan's rule to ionic solids, construct Born – Haber cycle and describe imperfections in crystals
iii. discuss chemical forces, Hydrogen bonding and noble gases
iv. outline characteristics of group III elements and compare the properties of their compounds
v. explain characteristics of group IV elements and their compounds.

Organic Qualitative Analysis

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

i. Apply the basic organic theoretical concepts for analysing the unknown compounds.
ii. Identify the elements and functional group present in the compounds.
iii. Select an appropriate derivative and develop the skills to prepare it
iv. Confirm the derivative by determining the physical properties

Chemistry for Biochemist – II

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

i. Explain reaction rate parameters, enthalpy, Hess's law and Bomb calorimeter.
ii. Describe the theoretical aspects of volumetric analysis.
iii. Apply the concepts of co-ordination chemistry to explain properties and applications of coordination complexes.
iv. State and analyse the stereochemistry of organic compounds.
v. Illustrate the principles and applications of UV-Vis, IR, NMR and mass spectroscopy techniques.

Chemistry for Botanist – II

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

i. Describe various chemical and photochemical reaction in atmosphere and its effects
ii. Illustrate water treatment, hardness and define hygroscopy, deliquescence and efflorescence in crystal
iii. Classify soil and give examples of various soil pollutants
iv. Explain physical and chemical properties of fat, oil, milk and milk products
v. State laws of photochemistry, illustrate various photo-physical and chemical processes

Chemistry Lab for Bio-Chemistry-II

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

i. Identify interfering acid radicals
ii. Eliminate interfering anion
iii. Perform a systematic analysis and identify the cations
iv. Determine quality parameters of environmental samples and food products
v. Perform extraction of natural products

Chemistry Lab for Botanists–II

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

i. Identify interfering acid radicals
ii. Eliminate interfering anion

iii. Perform a systematic analysis and identify the cations
iv. Determine quality parameters of environmental samples and food products
v. Perform extraction of natural products

Food Chemistry

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

i. Explain the physical properties and factors affecting the composition of milk and also identify the adulterants, preservatives, neutralizer in milk
ii. Discuss the types of pasteurization, major constituents and chemistry of various milk products
iii. Describe the principles and methods of processing of fruits and vegetables
iv. Classify natural & synthetic colours, food additives and food flavours
v. List the various preservation techniques and quality control

Chemistry in Today's World

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

i. Describe the physical properties and qualities of water
ii. Explain the types, constituents and applications industrial materials
iii. Interpret medical report of urine and blood samples
iv. Discuss the role of agrochemicals
v. List the importance of vitamins, minerals and metals in biology

Chemistry in Crime Investigation

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

i. Illustrate the various codes of criminal penology
ii. Describe the finger prints, tracks and traces
iii. Explain the importance of biological samples and identify various poisons and its treatment
iv. Classify and Examine the arsons, explosives and ballistics
v. Explain forged documents, signature, currency coins and cyber crime

Organic Chemistry–II

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

i. Identify the aromaticity in molecules and discuss methods for synthesizing arene compounds and associated aromatic substitution reactions.
ii. Describe the preparation, properties and reactions of polynuclear hydrocarbons naphthalene, phenanthrene and anthracene.
iii. Analyse the mechanisms for SN1, SN2, E1, E2 reactions and apply them for synthesizing and converting haloalkanes and haloarenes to synthetically useful organic compounds.

iv. Classify alcohols and illustrate methods for preparing and reacting alcohols, ethers, thioethers and epoxides.
v. Ascertain various name reactions involved in phenolic compounds

Inorganic Chemistry-III

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

i. explain concepts and laws of crystallography and bonding in metals
ii. discuss the chemistry of the Group V elements & compounds and relate the structures of their hydrides and oxoacids
iii. write the synthesis, discuss the bonding, properties and list the applications of group VI compounds
iv. rationalize similarities and differences in properties among the elements & compounds of group VII
v. analyse data statistically, discuss the sources of errors and principles of gravimetry.

Physical Chemistry–II

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

i. Illustrate various terminologies and concepts related to first law of thermodynamics and thermochemistry
ii. Explain thermodynamics based on second law of thermodynamics.
iii. State third law and solve problems related third law of thermodynamics.
iv. Compare various types of solutions of non-electrolytes.
v. Apply colligative properties and Nernst distribution law to explain various systems.

Inorganic Qualitative Analysis

At the end of the course, the students will acquire skill to:

i. analyse the interfering and non-interfering anions
ii. eliminate the interfering anions
iii. perform a systematic qualitative analysis
iv. diagnose the cations
v. analyse cations and anions in food samples and environmental samples.

Chemistry for Physicists – I

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

i. Explain periodic properties and describe theories of chemical bonding
ii. Classify the organic compounds, reactions, intermediates and H-bonding
iii. State and explain the applications of thermodynamic parameters
iv. Explain the mathematical expressions for pKa, pKb, Ksp and describe osmosis
v. Explain titrimetric and chromatographic techniques

Chemistry for Zoologists – I

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

i. Explain periodic properties and describe theories of chemical bonding
ii. Write the nomenclature, State and analyse the stereochemistry of organic compounds
iii. State laws of photochemistry, illustrate various photo-physical and chemical processes
iv. State and explain the applications of thermodynamic parameters
v. Explain the mathematical expressions for pKa, pKb, Ksp, and describe osmosis

Chemistry Lab for Physicists–I

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

i. Identify and handle volumetric apparatus
ii. Estimate acids, bases and metal ions (Fe, Zn) in given solution
iii. Perform experiments to analyse commercial samples like pyrolusite and vinegar
iv. Prepare metal nano particles by green method
v. Determine quality parameters in water, food samples and tablets

Chemistry Lab for Zoologist–I

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

i. Identify and handle volumetric apparatus
ii. Estimate acids, bases and metal ions (Fe, Zn) in given solution
iii. Perform experiments to analyze commercial samples like pyrolusite and vinegar
iv. Prepare metal nano particles by green method
v. Determine quality parameters in water, food samples and tablets

Organic Chemistry–III

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

i. Analyse the methods of preparing aldehydes and ketones and various condensation, oxidation and reductions reactions pertaining to them.
ii. Examine the preparation, properties and reactions of carboxylic acids and its derivatives.
iii. Predict the methods for preparing amines and diazonium compounds and suggest methods for converting them to synthetically useful organic precursors.
iv. Illustrate preparation and reactions of nitro, nitrile and isonitrile compounds.
v. Analyse the basic nature of heterocylic compounds and identify methods for preparing them along with their chemical properties.

Inorganic Chemistry- IV

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

i. illustrate transition properties, differentiate transition series and describe the metallurgy
ii. name coordination compounds, determine structure from physical measurements and

explain stability and isomerism in coordination compounds

iii. describe and apply theories of bonding in coordination compounds.
iv. write the preparation, discuss the properties, structure and uses of transition metal compounds
v. explain the properties and uses of inorganic polymers.

Physical Chemistry–III

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

i. Explain the basic principles and applications of electrical conductance
ii. Classify cells and calculate (solve problems related to) EMF of various electrodes
iii. Derive (Compute) various rate orders, describe theories of reaction rates and evaluate thermodynamic parameters
iv. Discuss (Illustrate) kinetics of reactions in solution and homogeneous catalysis
v. Derive and calculate (solve problems related to) various ionic equilibrium properties along with its applications

Organic Estimation and Gravimetric Analysis

At the end of the course, the students will acquire skill to:

i. Estimate the organic compounds quantitatively
ii. Prepare and purify organic compounds
iii. Perform effective precipitation
iv. Estimate cations quantitatively by weighing
v. Analyse biological samples and preservatives quantitatively

Chemistry for Physicists – II

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

i. Explain reaction rate parameters and Michaelis-Menten hypothesis
ii. Define enthalpies of various reactions and explain Hess's law
iii. Apply the concepts of co-ordination chemistry to explain properties and applications of coordination complexes
iv. State and analyse the stereochemistry of organic compounds
v. Classify amino acids, proteins, carbohydrates, explain their properties and applications

Chemistry for Zoologists – II

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

i. Classify and explain reagents, intermediates and reactions
ii. Discuss the reaction parameters and catalysis
iii. Explain the role of elements in biology
iv. Illustrate purification techniques
v. Illustrate the principles and applications of UV-Vis, IR, NMR and mass spectroscopy techniques.

Chemistry Lab for Physicists–II

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

i. Identify interfering acid radicals
ii. Eliminate interfering anion
iii. Perform a systematic analysis and identify the cations
iv. Determine quality parameters of environmental samples and food products
v. Perform extraction of natural products

Chemistry Lab for Zoologist–II

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

i. Identify interfering acid radicals
ii. Eliminate interfering anion
iii. Perform a systematic analysis and identify the cations
iv. Determine quality parameters of environmental samples and food products
v. Perform extraction of natural products

Organic Chemistry – IV

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

i. Describe the structure, classification and stereochemistry of amino acids, proteins and enzymes.
ii. Discuss and distinguish the composition of nucleic acids and lipids.
iii. Classify carbohydrates, analyze their structure and explain the reactions of mono, di and polysaccharides
iv. Identify the general methods structural elucidations and apply them to elucidate the structure of alkaloids.
v. State general rules applicable to terpenoids and apply them for structural elucidation.

Inorganic Chemistry-V

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

i. explain preparation, properties, structural features and stability of □-donor and□-acceptor complexes
ii. discuss reaction mechanism of coordination compounds, apply trans effect for synthesis and outline catalytic cycles
iii. describe the structure & functioning of biomolecules and role of metals in biology
iv. explain extraction and properties of f-block elements
v. outline the nuclear properties and its applications and calculate nuclear energies.

Physical Chemistry – IV

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

i. Analyse the classical mechanism principle which led to quantum mechanics
ii. Apply the properties such as operators and eigen values to solve the appropriate Schroedinger equation
iii. Classify the types of polymers and determine the molecular weight of polymers
iv. Analyse the phase diagrams of systems
v. Illustrate various nanomaterials and their applications

Environmental Studies

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

i. Explain about environmental parameters
ii. Describe eco-system
iii. Illustrate water, soil pollution and their treatments
iv. Identify air, thermal, radioactive and noise pollution
v. Explain environmental acts and human population issues, describe women and child welfare

Physical Chemistry Lab

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

i. Demonstrate and validate theoretical concepts through experiments
ii. Acquire skills in handling various instruments
iii. Plan, conduct and report various experiments
iv. Analyse and intepret experimental data
v. Apply the knowledge acquired for further research

Medicinal Chemistry

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

i. Identify ideal drugs, classify drugs based on its sources chemical structure and therapeutic actions
ii. Describe drugs based on their origin
iii. Explain drug action
iv. Write the preparation of drugs
v. Write the strategy for marketing of drugs

Organic Chemistry – V

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

i. Compute the λmax values in UV-visible spectroscopy, identify frequencies of various

functional groups in IR spectra and diagnose the fragmentation pattern in mass spectra

ii. Identify and deduce the structure of organic molecule from 1H and 13C NMR spectrum.
iii. Apply the FMO method & Woodward-Hofmann rules to predict the nature and stereochemistry of product obtained in pericyclic reactions.
iv. Explain the theories of color and describe the classification, preparation and applications of dyes.
v. Discuss the synthesis of organometallic and active methylene compounds and analyse the possible applications of these compounds.

Applied Chemistry

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

i. calculate hardness of water and explain various water softening methods
ii. discuss the types & preparation of polymers and relate the properties with uses
iii. outline plant nutrients & functions, explain the types, preparation and effects of fertilizers
iv. describe types, properties and applications of ceramics & refractories
v. explain the constituents of paints &pigments, outline the types and characteristics of explosive materials.

Physical Chemistry – V

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

i. Apply physical parameters to derive rotational and vibrational energy for different types of molecules
ii. Discuss Illustrate the principles of Raman, electronic and photoelectron spectroscopy and illustrate the applications of photoelectron spectroscopy
iii. Explain the principle, instrumentation and applications of NMR, ESR and Mossbauer spectroscopy
iv. Ascertain point group for molecules and apply the concepts of group theory to predict the spectroscopic properties
v. To state various photochemical laws, classify photo-physical and chemical processes, and to determine the kinetics of photochemical reactions

Project

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

i. Analyse a research topic
ii. Acquire analytical skills
iii. Apply the practical skill and knowledge
iv. Design a method for analysis/synthesis
v. Present a report of their findings

Dairy and Dairy Products

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

i. Describe physical properties, composition, structure and constituents of milk
ii. Discuss the microbiology of milk and various pasteurisation techniques
iii. Explain composition, chemistry of milk derivatives and Identify the common adulterants in ghee
iv. Define and construct the flow chart for manufacturing various kinds of special milks
v. Describe various milk products

Food Processing and Preservation

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

i. Explain the scope of fruit and vegetables preservation and properties of enzymes
ii. Classify food additives and predict the components of flavour
iii. Illustrate the natural colouring matters give examples for food spoilage and predict the characteristics and storage conditions of food
iv. Explain the principles and methods of preservation and the process of canning
v. Apply the drying techniques and quality control in food processing

Department of Computer Applications

Course Outcomes – B C A

Computer Fundamentals and Applications

Upon successful completion of the course the students will be able to

i. Understand the basic operations of the computer
ii. Discuss the process of the system
iii. Classify the peripheral devices
iv. Identify the process of programming
v. Evaluated the security measures for protecting data

Programming in C

Upon successful completion of the course the students will be able to

i. Identify the basic terminology using in computer programming.
ii. Describe the reason for iteration and understand loops
iii. Design and Develop C programs using array and function
iv. Determine Pre-processor commands and functions.
v. Illustrate the file, file modes and command line arguments

C Programming Laboratory

Upon successful completion of this lab Course, student will be able to

i. Understand the basic concept of C Programming, and its different modules
ii. Evaluate constants, variables, identifiers, operators, type conversion and other building blocks of C Language
iii. Use of conditional expressions and looping statements to solve problems associated with conditions and repetitions.
iv. Design and develop the concept of Strings
v. Demonstrate the file, file modes and command line arguments

Office Automation

Upon successful completion of the course the students will be able to

i. Recognize to use each of the Microsoft office program to create professional and academic documents.
ii. Understand the various ways of edit basic excel spreadsheets
iii. Classify the concept of working with workbooks using formulas and charts
iv. Use Power point for creating animations and preparing presentation
v. Choose appropriate images, graphs and other objects for the presentation

Digital marketing

Upon successful completion of the course the students will be able to

i. Recite the evolution and technology in digital marketing
ii. Learn and create the domain name, hosting, e-mail marketing and social media
iii. Understand the power of digital marketing
iv. Compare and contrast the email marketing
v. Applying digital marketing in various fields

Operating System with UNIX

Upon successful completion of the course the students will be able to

i. Recognize the basic concepts of Operating System.
ii. Understand the importance of Process and Threads
iii. Apply and solve deadlock problems using algorithms
iv. Differentiate between physical and virtual memory management
v. Evaluate the Unix commands

Object Oriented Programming using C++

Upon successful completion of the course the students will be able to

i. Understand the programming concept to develop applications.
ii. Develop programs using different types of functions, string and math functions
iii. Analyse and develop C++ programs using Class and object, friend and inline function.

iv. Apply the concept of Constructor, destructor, Function Overloading and operator overloading
v. Identify the file, file modes and command line arguments

C++ Laboratory

Upon successful completion of this lab course, students will be able to

i. Understand object-oriented concepts and how they are supported by C++
ii. Demonstrate the ability to analyze, use, and create functions, classes, to overload operators
iii. Evaluate the concept of constructors, destructors
iv. Use of inheritance and Pointers when creating or using classes and create templates
v. Understand the basic file operations

Web Designing

Upon successful completion of the course the students will be able to

i. Recognize about the basic concepts of Internet and its services
ii. Understand the concepts of HTML and CSS
iii. Analysing the java script statements.
iv. Apply java script in the HTML pages and validating the forms
v. Design website using Dreamweaver.

Multimedia Technology and Applications

Upon successful completion of the course the students will be able to

i. Identify the multimedia concepts and applications.
ii. Understand digital audio and video concepts.
iii. Applying the working techniques using Photoshop.
iv. Analyse the flash tool box and drawing characters.
v. Evaluate the different animation methods.

Data Structure using C++

Upon completion of the course the students will be able to

i. Recall the fundamental of data structures and summarizes their uses.
ii. Apply the concept of stack and queue in data structures
iii. Understand the various types of linked lists.
iv. Create binary representation of data structure and its operations
v. Determine the concept of searching and sorting techniques.

Dot Net Programming

Upon completion of the course the students will be able to

i. Recognize the dot net framework and its features

ii. Understand vb.net and write programs including oops concepts
iii. Apply exceptions and create menus in vb.net
iv. Analyse the features of ADO.NET and handle sql commands for data manipulation
v. Create dynamic websites using ASP.NET.

Data Base Management System

Upon successful completion of the course the students will be able to

i. Remember the basic database concepts and E-R models.
ii. Apply the importance of various relational operations such as Join, etc.,
iii. Understand the concept of Normalization of data using various normal forms.
iv. Create and learn the concepts of data mining system
v. Evaluate the concept of data warehousing and its operations

Dot Net Laboratory

Upon successful completion of this lab course, students will be able to

i. Understand the concepts of Looping and conditional statements
ii. Create web pages using Controls
iii. Judge the data using Validation controls
iv. Evaluate the concept of ADO.NET with SQL commands
v. Design websites using ASP.NET

Software Engineering

Upon successful completion of the course the students will be able to

i. Remember the various software process models
ii. Apply the working environment on requirement engineering
iii. Understand and analysis the design of various modelling
iv. Create and manage the software testing concept
v. Evaluate the software quality and maintenance concept

Computer graphics

Upon successful completion of the course the students will be able to

i. Recognize the graphics, design and the primitives.
ii. Understand the basic principles and techniques of graphics.
iii. Classify the concept of working with graphics program using 2D and 3D.
iv. Determine the fundamentals of transformations, clipping and projections.
v. Analyse the ray tracing process and apply on case studies.

Java Programming

Upon completion of the course the students will be able to

i. Identify the structure and fundamentals of the Java programming language
ii. Apply the concepts of Class, packages and exceptions in Java

iii. Understand the Java IO Streams and thread concept.
iv. Analyse the awt concept, applets in Java program.
v. Construct a swing and jdbc concepts to demonstrate it.

Java Laboratory

Upon successful completion of this lab course, students will be able to

i. Recall the basic concept of Java programming
ii. Understand Java classes from specifications and effectively create and use objects from predefined class libraries
iii. Apply decision and iteration control structures to implement algorithms
iv. Evaluate interfaces, inheritance, packages, exceptions
v. Creating java database connectivity program using applet and swing concept

Computer Networks

Upon completion of the course the students will be able to

i. Recall the basic of networks, internal components and its functionality
ii. Understand the transmission of data through wired and wireless mediums
iii. Illustrate the IP datagrams, address and Protocol mapping
iv. Compare and contrast the concept of TCP , UDP protocols
v. Classify the working of real time applications of networking such as email, DNS, File transfer etc

Python Programming

Upon successful completion of the course the students will be able to

i. Remember the basic concepts of Python scripting language for developers
ii. Apply the basics of python programming such as datatypes, variables, control statements
iii. Understand functions in Python Language
iv. Create and learn how to use files in Python applications
v. Evaluate implementation of oops concepts and GUI programming

Internet Technology

Upon successful completion of the course the students will be able to

i. Analyse a web page and identify its elements and attributes.
ii. Apply mark-up languages for processing, identifying and presenting, also to use scripting languages to add interactive components to web pages
iii. Evaluate the concept of JSON and PHP basics
iv. Create my sql database using PHP programs.
v. Understand the XML syntax, attributes etc.,

Internet Technology Laboratory

Upon completion of the course, the students will be able to

i. Identify the basic tags in HTML
ii. Design their own website using PHP, MySQL
iii. Discuss the XML syntax, attributes etc
iv. Evaluate the form validation
v. Compare and contrast the concept of JSON and PHP

Environmental Studies

Upon successful completion of the course the students will be able to

i. Recall the environmental system its issues and awareness
ii. Understand ecosystem, biodiversity, pollution
iii. Classify the energy sources
iv. Compare and contrast types of pollution
v. Illustrate about the e-waste management

Cyber Security

Upon successful completion of the course the students will be able to

i. Define computer network and information security needs of an organization
ii. Understand the information systems security, various categories and kinds of cybercrimes
iii. Analyse on cyber terrorism and the challenges in our nation
iv. Illustrate the cyber security risk management policies
v. Describe the intellectual property and their issues

Big Data Analytics

Upon successful completion of the course the students will be able to

i. Recite the knowledge of big data analytics
ii. Classify the problem definition based on data and deep analytics
iii. Understand R Language for handling Big data
iv. Apply technical skills in R for predicative and prescriptive modelling
v. Develop various graphic tools for data representation

Fundamentals of Linux

Upon successful completion of the course the students will be able to

i. Recall the features and administration of Linux
ii. Understand the Linux commands and KDE desktop
iii. Illustrate the common applications in Linux
iv. Describe the resource management and system calls
v. Use GTK tools and to perform programs using awk commands

Fundamentals of mobile computing

Upon successful completion of the course the students will be able to

i. Remember the basic concepts of mobile communications and the devices
ii. Understand the architecture and the features of android OS
iii. Create applications using android
iv. Applying suitable layout and managing layouts
v. Compare and contrast on the various views

Project

Upon successful completion of the course the students will be able to

i. Identify the company's software technology and methodologies
ii. Develop the software projects by understanding the client requirement
iii. Evaluate and analyse the SDLC, understand software design, coding techniques and software testing principle
iv. Analyse a given problem and develop an algorithm to solve the problem
v. Implement the various programming languages like C, C++, VB. Net, Java Construct in the right way

Advanced Excel

Upon successful completion of the course the students will be able to

i. Identify the different windows of the spread sheet program
ii. Classify the sort, filter and pivot table
iii. Compare and contrast the data tab in worksheet
iv. Develop macros and understand importance of it
v. Understand the various ways of customizing ribbon in excel
i. Demonstrate methods for basic photo corrections and working with layers.
ii. Construct simple documents with filters and masks.
iii. Create links and export the document

Department of Computer Science

Course Outcomes - B. Sc Computer Science

Programming in C

At the end of the course the student will be able to:

i. Recognize the basic data types and control statements in C.
ii. Summarize the concept of arrays and strings in C.
iii. To create efficient program using functions to implement reusability.
iv. Apply the structures in making application software
v. Generate files and use preprocessor for real world application.

Problem Solving Using C Programming Lab

At the end of the course the student will be able to:

i. Identify the basic Programming skills.
ii. Extend the skills to write C program and to solve different problems.
iii. Carry out top down approach for implementing function
iv. Utilize dynamic memory allocation concept in program.
v. Generate file program for creating application software.

System Software

At the end of the course the student will be able to:

i. Recall the basic structure of Machine architectures by introducing the organization of SIC and SIC/XE.
ii. Distinguish between various machines architectures and understand its purposes.
iii. Explain the functioning of assemblers and its passes.
iv. Apply the loading and linking process.
v. Categorize the working of compiler and identify its application in debugging systems.

Digital Principles and Computer Organization

At the end of the course the student will be able to:

i. Identify different types of number systems, Logic Gates, Boolean laws &theorems.
ii. Formulate different theorems for simplification of basic digital electronics circuits and able to build arithmetic operations using logic circuits.
iii. Carry out the basics of Flip-flop, shifts register, counters and Semiconductor memory for data Processing circuits.
iv. Recognize the basic structure of computer and control unit operations.
v. Extend the learning of memory organization.

PC Hardware and Troubleshooting

At the end of the course the student will be able to:

i. Identify the main components of PC, power supplies and various ports.
ii. Explain the function of motherboard and working mechanisms of Keyboard and mouse.
iii. Illustrate the types of Monitors, Printers, graphic adapters and their mechanisms.
iv. Categorize various modems, soundcards and their working.
v. Solve the problems faced in PC by applying the troubleshooting methods.

Image Designing

At the end of the course the student will be able to:

i. Recognize the basic tools and its purpose in Illustrator.

ii. Translate the objects into 3D Format by applying effects and shades.
iii. Compare and contrast illustrator and Corel draw Workspace.
iv. Apply a different shape in an image.
v. Develop a document and export it into PDF format.

Object Oriented Programming Using C++

At the end of the course the student will be able to:

i. Compare the procedural and object-oriented paradigm.
ii. Identify the solution for the problems by using OOP.
iii. Apply the inheritance and polymorphism concept for developing application software.
iv. Develop programs using file concepts for real world software projects.
v. Create robust applications using exception handling and templates.

C++ Programming Lab

At the end of the course the student will be able to:

i. Identify the problem-solving ability by applying the characteristics of object oriented approach
ii. Classify algorithms in object-oriented approach for developing applications with minimum complexities.
iii. Apply reusability concept in implementing inheritance for developing software application.
iv. Build secured programs using data hiding features in OOP.
v. Create robust program using exception handling.

Computer Graphics

At the end of the course the student will be able to:

i. Identify the CG applications and understand the working of different output systems (Raster and Random).
ii. Generate lines, circle, ellipse and fill polygons using different algorithms.
iii. Apply transformations to geometric figures.
iv. Illustrate 2D viewing and clipping concepts.
v. Relate the previously learned concepts of viewing, transformations in 2D with 3D and apply them.

Introduction to Database Concepts

At the end of the course the student will be able to:

i. Identify the database requirements and the entities involved in the applications
ii. Apply relational expressions for queries.
iii. Examine the database design by normalization.

iv. Build a table and manipulate the data using SQL Commands.
v. Summarize the transactions, its properties and the concurrency controls.

Animation Technology

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

i. Recognize Flash tools and create Objects with colors and text.
ii. Illustrate key frames for animations like Tweening, Masking and Guide layers.
iii. Build basic programs using Action Script.
iv. Develop programs with functions and parameters.
v. Create animation using various Objects.

Java Programming

At the end of the course the student will be able to:

i. Identify the various features of Object Oriented Programming.
ii. Illustrate OOP concept using Java application programs.
iii. Apply reusability using inheritance, interfaces and packages.
iv. Constructs Java programs to implement error handling technique and to create application software using JDBC.
v. Build dynamic web application using JSP.

Java Programming Lab

At the end of the course the student will be able to:

i. Classify a simple application using Java programming.
ii. Develop robust program using Exception Handling.
iii. Implement many application software and enhance problem solving ability.
iv. Create client server application using JDBC.
v. Design a Dynamic web page using JSP.

Operating Systems

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

i. Identify the components of operating systems, process and threads.
ii. Summarize the process management concept for the given situation.
iii. Relate the different memory management for the given situation.
iv. Choose the page replacement algorithms and storage structure concepts.
v. Categorize the file structures, and I/O systems.

Data Structure Using C++

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

i. Identify the storage mechanisms of data using Array and Stack.

ii. Demonstrate the operation of Queue and Circular Queue using Array and Linked list.
iii. Summarize the operations of single Linked list and double Linked list.
iv. Apply traversal of Binary tree and Binary search tree in various applications.
v. Analyse various sorting techniques to arrange data.

Relational Database Management System

At the end of the course the student will be able to:

i. Identify the database requirements and determine the entities involved in the system and their relationship to one another.
ii. Summarize the relational algebra, functional dependencies and database normalization.
iii. Build the database tables and make DML operations, functions and joins.
iv. Create PL/SQL program for creating client server applications.
v. Apply the Procedures, Functions, Packages, and Triggers for creating application software.

Oracle Lab

At the end of the course the student will be able to

i. Develop database using SQL.
ii. Examine queries in SQL to retrieve any type of information from a data base.
iii. Classify various functions available in SQL
iv. Construct programming structure using PL/SQL.
v. Build programs using Cursor and Procedure.

Computer Networks

At the end of the course the student will be able to:

i. Identify the terminology and concepts of the basic communication and networking technologies.
ii. Outline how communication works in data networks on both wired and wireless network.
iii. Examine the role of protocols in networking and choose between various error detection and correction codes.
iv. Interpret Ethernet types and various network hardware components, their roles and working.
v. Utilize the role of network layer and modify different security and ethical issues in computer networking.

Microprocessors and Microcontrollers

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

i. Recognize 8086 microprocessor, its structure and registers.

ii. Compare the software aspects of 8086 microprocessor with its pin configuration & signals.
iii. Outline the multiprocessor configuration and certain I/O processors.
iv. Analyse I/O interfacing, timers, programmable interrupt Controller and its Applications.
v. Utilize the basics of 8051 microcontroller signals, instructions and interfacing with 8051.

Cloud Computing

At the end of the course the student will be able to:

i. Understand the benefits of Cloud and its standards for deploying an application.
ii. Provides the appropriate cloud computing services required to build and deploy the application.
iii. Utilize the knowledge to manage and deploy virtual servers in an organization.
iv. Examine the core issues such as security, privacy, and interoperability of cloud computing.
v. Create applications by utilizing cloud platforms such as Google and Amazon Web Services.

Web Programming

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

i. Identify the basics of Internet programming using HTML and CSS.
ii. Build webpages using client side scripting language like Javascript.
iii. Explain functional elements of PHP.
iv. Create Dynamic web page using PHP
v. Design interactive web page using PHP and MYSQL

Software Engineering

At the end of the course the student will be able to:

i. Recall the basic concepts of software engineering and will be able to analyse, estimate and design new software with quality standards.
ii. Explain various concepts of requirement engineering and its validation provide better management skills for real time management.
iii. To create a detailed system design through the system analysis for various designing purposes.
iv. Design UML diagrams for better understanding of software system.
v. Applying various types of testing concepts and implementation procedures with maintenance for quality assurance.

Enterprise Resource Planning

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

i. Illustrate data integrated model for any organization
ii. Utilize the concept of ERP technologies and manufacturing perspective
iii. Analyse the benefits of ERP modules and various ERP market tools
iv. Assess the various phases in ERP implementation lifecycle.
v. Elaborate the ERP procurement issues and analyse case studies of companies

Audio / Video Editing

At the end of the course the student will be able to:

i. Identify various formats of audio and video and design and create a simple video.
ii. Infer an effective video by adding music, various video Effects and other editing effects.
iii. Develop 3D text and other transition effects and mix audio and video files.
iv. Choose different editing techniques by authoring tools for enhancing audio and video.
v. Generate Titles, Labels for Video, Overdubs and Superimpose images.

Python Programming

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

i. Identify python identifiers, data types, operators and expressions.
ii. Explain tuples, list and dictionary concept.
iii. Build application using functions, strings and date.
iv. Create files, modules and user defined exceptions in applications.
v. Generate innovative IOT application using oop concept with databases.

.Net Programming

At the end of the course the student will be able to:

i. Identify the fundamental concepts of .net framework.
ii. Develop programs using VB.NET forms and controls.
iii. Organize the procedures and structures of OOP to build forms.
iv. Illustrate the concepts of database and its connections for program outputs.
v. Create interactive web application including web services.

Project Development Lab

At the end of the course the student will be able to:

i. Demonstrate the practical knowledge on the programming concepts studied.
ii. Build innovative idea focusing on application-oriented concepts.
iii. Analyse in solving complex challenging problem.
iv. Estimate windows and web application software with minimum complexities.
v. Create quality application software using SDLC.

Mobile Technologies

At the end of the course the student will be able to:

i. Identify the concept of wireless transmission, signal propagation and different multiplexing techniques.
ii. Summarize different wireless technologies such as CDMA, GSM, GPRS and Bluetooth.
iii. Explain the android platform, its architecture and features.
iv. Develop Android application and organize user interface and activity for Android app.
v. Design and Implement basic iPhone Application and improve the environmental setup, app contents and compilations of Phone Gap.

Business Intelligence and Data Analytics

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

i. Classify steps in data mining process, functionalities and data mining techniques.
ii. Apply association rule mining in various data mining application.
iii. Examine multidimensional model to create data warehouse.
iv. Appraise data warehouse implementation and map data house to multiprocessor architecture.
v. Utilize the concept of big data to predict analysis and report.

Environmental Studies

At the end of the course student will be able to do

i. Identify the structure of eco system human lives in.
ii. Categorize different species that lives along in our eco system.
iii. Assess the importance behind renewable forms of energy and necessity to implement it.
iv. Discover the role of various technologies that are useful in sensing environmental impacts.
v. Carry out the disposal and recycling of e-wastes.

Network Security

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

i. Identify various goals of information security, building security policy.
ii. Interpret Firewall types and its functions.
iii. Apply various Packet Filtering rules to control network access.
iv. Classify encryption and decryption techniques to solve problems based on confidentiality.
v. Assess how a secure connection is established between different users using VPN.

Introduction to Programming in C

At the end of the course the student will be able to:

i. Recognize the basic data types and control statements in C.
ii. Summarize the concept of arrays and strings in C.
iii. To create efficient program using functions to implement reusability.
iv. Apply the structures in making application software
v. Generate files and use preprocessor for real world application.

Introduction to Object Oriented Programming Using C++

At the end of the course the student will be able to:

i. Compare the procedural and object oriented paradigm.
ii. Identify the solution for the problems by using OOP.
iii. Apply the inheritance and polymorphism concept for developing application software.
iv. Develop programs using file concepts for real world software projects.
v. Create robust applications using exception handling and templates.

Department of Food Science and Nutrition

Course Outcomes – B. Sc Food Science and Nutrition

Basics of Food Science

Upon completion of this course, the student will be able to:

i. Identify and explain nutrients in foods and the specific functions in maintaining health.
ii. Outline the effects of various factors on cereals and pulses.
iii. Analyse the effects of different amounts of water added to vegetables during cooking on flavour and appearance and to compare the factors affecting coagulation of milk protein and prepare milk products.
iv. Assess the effect of addition of acid, fat, salt, water and sugar on the texture of flesh foods quality.
v. Determine the smoking point of any cooking oils and the stages of sugar cookery

Lab in Food Science

Upon completion of this course, the student will be able to:

i. Understand the fundamentals of cereals, pulses, fruits & vegetables processing, equipment and products.
ii. Assess the selection, purchase and storage of foods.
iii. Demonstrate the different methods of cooking.

iv. Evaluate the basic methods and principles involved in cooking.
v. Evaluate the change of pigment during cooking.

Fundamentals of Nutrition

Upon completion of this course, the student will be able to:

i. Identify the risk groups in community and find the solution.
ii. Analyse the different quality aspects of carbohydrates.
iii. Discuss on specific functions of macronutrients in human body.
iv. Identify the functions and deficiencies of minerals.
v. Rate the sources of vitamins

Human Physiology

Upon completion of this course, the student will be able to:

i. Compare the digestive and excretory system and infer the mechanisms of digestion and excretion in human beings.
ii. Explain the functions of circulatory system.
iii. Communicate the structure and functions of respiratory system in man.
iv. Analyse the relationship between nervous system and sense organs
v. Discuss the role of hormones and functions of human reproductive system.

Basic Nutrition

Upon completion of this course, the student will be able to:

i. Explain the structure and components of nutrients.
ii. Analyse the different quality aspects of macronutrients and to discuss on specific functions of macronutrients in human body
iii. Discuss on specific functions, digestion, absorption and utilization of vitamins.
iv. Identify the functions and deficiencies of minerals.
v. Outline the water distribution in human body.

Catering Management

Upon completion of this course the student will be able to:

i. Explain the different types of service in hospitals.
ii. Plan a well structural organization and layout of kitchen.
iii. Discuss different type menu and quantity food preparation techniques.
iv. Apply the principles and techniques of effective management.
v. Analyse the account methods and its importance.

Nutritional Biochemistry

Upon completion of this course, the student will be able to:

i. Revise the basis of reactivity of biologically relevant molecules and their interactions
ii. Explain the principles of enzymatic reaction.
iii. Compile the major metabolic pathways involved in the metabolism of nutrients in the human body.
iv. Discuss the inborn errors of metabolism.
v. Explain about the synthesis of nucleic acids and proteins.

Lab in Nutritional Biochemistry

Upon completion of this course, the student will be able to:

i. Evaluate the carbohydrate using qualitative and quantitative tests.
ii. Apply practical skills in qualitative analysis of proteins.
iii. Assess the level of glucose in urine samples.
iv. Evaluate the normal & abnormal constituents of urine
v. Compare the blood glucose level.

Food Microbiology

Upon completion of this course, the student will be able to:

i. Acquire, discover, and apply the theories and principles of food microbiology in practical, real-world situations and problems.
ii. Discuss on classification of micro-organisms and its characteristics.
iii. Evaluate the different factors responsible for the microbial growth.
iv. Analyse and describe the characteristics of important pathogens and spoilage microorganisms in foods.
v. Compare food borne infection and food intoxication

Dietetics

Upon completion of this course, the student will be able to:

i. Evaluate changes in human life span and to predict the required changes needed for life cycle.
ii. Plan a healthy food choice for physical, physiological psychological aspects in infancy.
iii. Discuss the impact of socioeconomic, cultural, and psychological factors on food habits of school going children.
iv. Identify socioeconomic and cultural barriers to meet nutrient needs of adolescence and adults.
v. Determine nutrient requirements during old age.

Diet and Disease

Upon completion of this course, the student will be able to:

i. Explain the types of diet and compare it.
ii. Plan diet for obesity and underweight and to analyse the aetiology of the disorders.
iii. Analyse the aetiology and symptoms of fever to identify the metabolic changes
iv. Critique the control of diabetes and complications.
v. Compute the nutritional planning for CVD.

Food Hygiene and Sanitation

Upon successful completion of the course, the student will be able to:

i. Classify the common kinds of physical/chemical contamination and simple measures to prevent food poisoning.
ii. Explain how high standards of personal hygiene for food handlers can be achieved.
iii. Define integrates practices for economic control of pests
iv. Design food hygiene and sanitation measures to control the spread of microorganism.
v. Criteria to fulfil water safety and environmental requirements.

Food Chemistry

Upon completion of this course, the student will be able to:

i. Explain the importance and scope of food chemistry.
ii. Identify the chemistry and functional properties of carbohydrates.
iii. Outline the physicochemical properties of proteins in relation to food quality.
iv. Evaluate the properties of lipids and the changes obtained by processing.
v. Analyse the effects of various reactions in food.

Food Processing

Upon completion of this course, the student will be able to:

i. Revise the historical perspective, traditional technologies used in food processing.
ii. Discuss the processing of cereals and pulses.
iii. Discuss the bio-chemical conversion of milk into different by products.
iv. Outline the processing and bio chemical changes during ripening.
v. Explain the preservation and storage techniques of meat and poultry.

Lab in Food Processing

Upon completion of this course, the students will be able to:

i. Apply the concepts and scientific knowledge of various processing and preservation technologies.
ii. Justify the principles of food preservation for various food groups.

iii. Combine the preservation techniques and methods for various food groups.
iv. Analyse the effect of processing methods on the quality characteristics on the foods.
v. Summarize the industrial level of food processing concepts.

Food Service Management

Upon completion of this course, the student will be able to:

i. Discuss about the scope of food service management principles and functions.
ii. Explain the functions of personnel management organization
iii. Compare the electrical and non-electrical equipment's in food service establishment.
iv. Analyse the cost account methods and its importance.
v. Evaluate kind of kitchen layout.

Human Development

Upon completion of this course, the student will be able to:

i. Outline the principles of development from conception to birth.
ii. Compare the development pattern of infancy and early childhood during life cycle.
iii. Critique the growth and development changes between childhood and adolescence.
iv. Explain the importance of childhood care, guidance and counselling.
v. Discuss the methods of disciplining children and their effects.

Therapeutic Nutrition – I

Upon completion of this course, the student will be able to:

i. Plan and prepare standardized hospital diet for the needed patients.
ii. Select specific foods for management for obesity and underweight.
iii. Apply nutrition principles to health promotion and the prevention of gastrointestinal diseases.
iv. Compare the food exchange list in the control of diabetes and complications
v. Identify the relationship between diet and cardiovascular disease.

Lab in Therapeutic Nutrition- I

Upon completion of this course, the student will be able to:

i. Assess knowledge in the method to plan and prepare diet for various diseases.
ii. Identify about the principles of meal planning, diet therapy, therapeutic diets and nutrition support.
iii. Create skill development in planning therapeutic diets using food exchange lists.
iv. Evaluate the concept of food groups and exchanges for planning and preparing a balanced diet for various age groups and physiological conditions

v. Make appropriate dietary modifications for various disease conditions based on the path physiology.

Food Preservation

Upon completion of this course, the student will be able to:

i. Design and develop the unit operations required to produce a given food product.
ii. Classify the various types of food spoilage and prevent using suitable processing methods.
iii. Outline the principles and concepts of processing techniques and its effects on product quality.
iv. Evaluate the novel technologies in food preservation.
v. Utilize the possible, recent preservation methods in the food processing sector.

Food Packaging

Upon completion of this course, the student will be able to:

i. Discuss the characteristics and function of materials used in food packaging.
ii. Identify different types of packaging materials suitable for food products.
iii. Explain about the standard method used for marketing of developed food products
iv. Apply various method of food packaging in order to increase the shelf life.
v. Use eco-friendly food packaging material

Functional Foods and Nutraceuticals

Upon completion of this course, the student will be able to:

i. Analyse the physiological and functional basis of various phytochemical compounds of natural as well as synthetic compounds
ii. Compare functional food and nutraceuticals in plant sources to evaluate the potential health benefits of plant based bioactive components
iii. Assess probiotics, prebiotics and symbiotic and to evaluate the potential health benefits.
iv. Explain the regulatory issues related to nutraceuticals and functional foods.
v. Evaluate the Consumer acceptability and marketing of potentially available functional food products

Therapeutic Nutrition – II

Upon completion of this course, the student will be able to:

i. Discuss the role of dietitians and their responsibilities
ii. Formulate the therapeutic diet based on disease condition
iii. Evaluate the nutritive adequacy of a diet and prescribed nutrient and energy levels.
iv. Explain disease states and types of diet prescribed for each.
v. Identify and define medical terminology.

Lab in Therapeutic Nutrition – II

Upon completion of this course, the student will be able to:

i. Demonstrate in the method to plan and prepare diet for various diseases.
ii. Design the principles of meal planning, diet therapy, therapeutic diets and nutrition support.
iii. Create skill development in planning therapeutic diets using food exchange lists.
iv. Evaluate the concept of food groups and exchanges for planning and preparing a balanced diet for various age groups and physiological conditions.
v. Make appropriate dietary modifications for various disease conditions based on the path physiology.

Food Biotechnology

Upon completion of this course, the student will be able to:

i. Explain the methods that humans have developed to use biotechnology to produce foods and food ingredients
ii. Identify the pros and cons of the use of biotechnology to produce foods including ecological, social and economic impacts
iii. Apply the biotechnological tools and techniques
iv. Assess the importance of various fermentation methods to design various fermented foods and food products
v. Apply the knowledge and synthesize new solutions and ways of thinking in food industries

Bakery and Confectionery

Upon completion of this course, the student will be able to:

i. Discuss the current status, growth rate, and economic importance of Bakery Industry in India.
ii. Explain different types of bakery and confectionery products and its quality characteristics, faults and corrective measures.
iii. Identify the basic ingredients to prepare bakery and confectionery products.
iv. Assess various methods in the preparation of modified bakery products.
v. Choose the appropriate bakery equipment based on the specific needs.

Obesity Management

Upon completion of this course, the student will be able to:

i. Explain the scientific definition of obesity and various body fat distribution patterns.
ii. Discuss the interaction of environmental factors and genetic factors (the genetic factors may influence energy expenditure and efficiency as well as appetite control) in development of obesity.

iii. Use different assessment methods to identify obesity
iv. Outline the treatment goals for clinical management of obesity.
v. Evaluate the effects of fast-foods and junk-foods on health.

Environmental Studies

Upon successful completion of this course, student will be able to

i. Outline the values of renewable and non-renewable resources.
ii. Evaluate the concept, functions and types of ecosystems.
iii. Discuss the values of biodiversity and importance of conservation.
iv. Compare different types of pollution and assess the various waste management strategies
v. Critique the importance of sustainable development, climate change and population explosion.

Food Safety and Quality Control

Upon completion of this course, the student will be able to:

i. Discuss on different food safety and quality aspects.
ii. Identify objectives, Importance, functions of quality control, stages of quality control.
iii. Create awareness on personal hygiene and to identify adulterants present in food
iv. Apply safety principles related to food industry.
v. Analyse basic principles of HACCP, SQF and ISO and sanitation.

Mini Project

Upon successful completion of the project the students will be able to

i. Formulate a hypothesis to investigate on any particular issue
ii. Design a set of experiments to verify the formulate a hypothesis
iii. Compile the set of data generated by the designed experimental set up
iv. Analyse the different parameters that are studied to verify the hypothesis
v. Communicate the outcome of the analytical approach to resolve the hypothesis

Health and Fitness

Upon completion of this course, the student will be able to:

i. Outline the self-responsibility for personal health and wellness.
ii. Analyse the role ole of nutrition in sports.
iii. Discuss the various parameters used to find health status.
iv. Evaluate the effect of exercise on various nutrient metabolisms.
v. Compare different exercise methods and learn its application.

Public Health Nutrition

Upon completion of this course, the student will be able to:

i. Identify suitable methods for resolve nutrition related problems in community.
ii. Evaluate nutritional status of the community.
iii. Analyse maternal and child health care programs.
iv. Assess immunization and its effective actions.
v. Outline the various agencies in uplifting the nutritional status and their roles.

Food Additives

Upon completion of this course, the student will be able to:

i. Explain on the classification of food additive and its applications.
ii. Access the natural colorant, applications and levels of use.
iii. To outline on the flavour stabilization, flavour encapsulation and emulsifiers.
iv. Identify the toxic substances in food products and their toxic effects.
v. To stay on the food laws and regulation like codex, FSSAI etc

Department of Information Technology

Course Outcomes – B. Sc Information Technology

C Programming

Upon completion of this course students will be able to:

i. Acquire the basic knowledge of C programming language and develop simple applications in C using basic constructs.
ii. Develop in depth knowledge in arrays and strings. Design and implement applications using arrays and strings.
iii. Implement programming skills using C functions and pointers.
iv. Acquire the knowledge of structure and union and write simple programs.
v. Develop simple applications using sequential and random-access files.

C Programming lab

Upon completion of this course students will be able to:

i. Understand basic structure of the C Programming. Build simple program using control and looping statements.
ii. Acquire programming skills by executing programs using arrays and string
iii. Design and develop programs in c using functions and pointers.
iv. Implement the structure concepts in C Programs.
v. Develop simple file applications in C

Principles of Information technology

Upon completion of this course students will be able to:

i. Acquire the basic knowledge about IT
ii. Analyse the types of database and memory
iii. Understand the types of network and various techniques in database management
iv. Acquire the skills in word processing, presentation tools and spreadsheets.
v. Obtain the basic knowledge on libre office.

Digital Principles and applications

Upon completion of this course students will be able to:

i. Perform conversion and arithmetic calculations in binary, decimal and hexadecimal number system.
ii. Gain knowledge on the application of digital principles using gates, solve Boolean algebra and simplify using K-map
iii. Analyse and synthesize combinational logic circuits
iv. Compare various types of Flip flops and counters for data storage.
v. Acquire knowledge on shift Registers, Ring and Johnson's counters.

E-Commerce

Upon completion of this course students will be able to:

i. Acquire the basic knowledge about e-commerce, benefits and challenges.
ii. Gain the applications of e-commerce in business
iii. Analyse the weaknesses and advantages of internet advertising
iv. Understand the numerous payment systems and issues init.
v. Understand the issues of e-commerce

HTML

Upon completion of this course students will be able to:

i. Gain the fundamental knowledge ofHTML5.
ii. Get the knowledge of forms in HTML
iii. Acquire the practical skills to embed audio and video files.
iv. Obtain the basic knowledge in Cascade StyleSheet3
v. Gain the skills to create images using canvas.

C++ Programming

Upon completion of this course students will be able to:

i. Outline the basic concepts of object oriented programming.
ii. Describe the constructor, destructor and overloading concepts.

iii. Understand the role of inheritance in building reusable code. Discuss polymorphism and virtual base class in program development.
iv. Apply and demonstrate the uses of C++ streams, console I/O operations and Error handling functions.
v. Learn how to fix the errors in the program using exception handling mechanism. Build simple programs using templates.

C++Programming lab

Upon completion of this course students will be able to:

i. Understand basic structure of a C++ Program. Develop simple program using classes and objects.
ii. Develop programming skills by writing programs using constructors and overloading concepts.
iii. Apply the inheritance and polymorphism concepts in writing C++programs
iv. Write C++ Programs using console I/O functions.
v. Develop simple programs using templates and handle the exceptions.

Data Structures Using C

Upon completion of this course students will be able to:

i. Acquire knowledge on implementation of array and stack to execute the instructions.
ii. Understand the types and applications of queue data structure.
iii. Implement linked list in real time problem solving.
iv. Gain knowledge on various types of trees, tree traversals and variable length code generation.
v. Develop real time algorithms to search and sort the data.

Cyber Law & Cybersecurity

Upon completion of this course students will be able to:

i. Gain the knowledge of basic concepts of cyber security and its problems.
ii. Acquire the depth knowledge in various problems in cybersecurity.
iii. Understanding the various property rights in the environment.
iv. Obtain the various issues in cybersecurity.
v. Gain the knowledge of various laws regarding cybersecurity.

Emerging Computing Paradigms and technologies

Upon completion of this course students will be able to:

i. Gain the knowledge of various principles of computing in software industry.
ii. Acquire the basic knowledge of cloud computing and its advantages.
iii. Understanding the various principles of computing technologies.

iv. Obtain the various milestones of cluster systems and application of IOT.
v. Gain the knowledge of applying computing methods in software environments.

System Analysis and design

Upon completion of this course students will be able to:

i. Define and develop the life cycle concepts used in software development.
ii. Analyse using basic tools of system in software development
iii. Study and implement the design principles.
iv. Design and implement the OO model.
v. Illuminate the software Development phase activities used in software development

Software testing

Upon completion of this course students will be able to:

i. Understand the principles of testing and various defects in software.
ii. Understand the knowledge of various testing strategies.
iii. Understand the concept of various testing and compare them.
iv. Apply the software testing techniques in commercial environments
v. Analyse the various results of testing.

Java Programming

Upon completion of this course students will be able to:

i. Obtain basic knowledge on the principles of object oriented programming.
ii. Understand constructor, method overloading, static function concepts and develop programs.
iii. Demonstrate the uses of inheritance, abstract class and interface
iv. Acquire knowledge to create package, identify and fix errors in the code and achieve faster execution of code by multithreaded programming.
v. Understand applets and database connectivity to develop window based application.

Java programming lab

Upon completion of this course students will be able to:

i. Develop simple java programs to demonstrate OOPs concepts.
ii. Construct programs using constructor, method overloading and static function.
iii. Examine reusability through inheritance, abstract class and interface concept in real time application development
iv. Develop packages and understand how to fix errors using exception handling.
v. Construct window based applications using Applet and achieve database connectivity using JDBC.

Operating system

Upon completion of this course students will be able to:

i. Describe the structure of UNIX operating system and its commands.
ii. Describe the fundamental concepts of operating system. Understand the process
iii. management components of Operating System.
iv. Analyse CPU scheduling, synchronization concepts and discuss the methods to manage / avoid deadlocks.
v. Compare different types of memory management techniques that are used in Operating Systems.
vi. Recognize the uses of paging, segmentation and file system mechanisms.

Computer Networks

Upon completion of this course students will be able to:

i. Classify the types of networks and topologies and uses of networks
ii. Describe the functions of each layer in OSI and TCP/IP model.
iii. Summarize the analog and digital data communication
iv. Illustrate the functions of data link layer and explain the hardware components
v. Elucidate the functions of Network layer and routing algorithms and discuss cryptography and network security.

Relational Database management system

Upon completion of this course students will be able to:

i. Obtain basic knowledge on database, relational database, data Models and ER model.
ii. Understand the normalization and denormalization concepts to organize the data.
iii. Familiarize structure query language, SQL queries, sub-queries, operators and views.
iv. Discuss PL/SQL concepts, handle loops, control statements and cursors.
v. Analyse the uses of sub programming, exception handling and triggers to built programs.

RDBMS LAB

Upon completion of this course students will be able to:

i. Design and create databases with the help of ER Diagram and data models.
ii. Remove inconsistent and redundant data using normalization concepts.
iii. Write SQL statements, queries, sub-queries, join and views.
iv. Construct programs using PL/SQL concepts, loops, control statements and cursors.
v. Build programs using functions, procedures, exception handling and triggers.

Software project management

Upon completion of this course students will be able to:

i. Gain the knowledge of various principles of managing and planning the project.

ii. Understand the knowledge of various process models and estimate techniques.
iii. Acquire the skills of planning the activity and identifying the risk in projects.
iv. Obtain the knowledge of monitoring and controlling the projects.
v. Gain the knowledge of allocating the staff and decision making in the projects.

Web Programming

Upon completion of this course students will be able to:

i. gain the fundamental knowledge of html.
ii. apply the concepts ofcss3.
iii. develop an depth knowledge in javascript.
iv. gain the fundamental knowledge in php
v. gain the basic knowledge in connecting my sql and php.

Python Programming

Upon completion of this course students will be able to:

i. Acquire the basic knowledge on the fundamentals of python.
ii. Understand tuples, list, set and dictionary concepts.
iii. Write programs using functions, strings and date.
iv. Demonstrate the creation of package and module. 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.

Software Engineering

Upon completion of this course students will be able to:

i. Get insight on planning the software development process.
ii. Process SRS and perform requirement engineering of software development.
iii. Develop strategies to initiate, plan, execute, monitor and control the software design.
iv. Create test plans to verify and validate a system.
v. Apply project management tools and techniques for process development.

Enterprise Resource Planning

Upon completion of this course students will be able to:

i. Analyse the concept of resource planning and its related technologies.
ii. Understand, Design and implement ERP methodologies.
iii. Discuss different business modules available in an ERP package and the features of the business modules.
iv. Analyse the ERP market, various vendors and their ERP product. Compare vendors and their ERP packages.
v. Outline the Enterprise Application Integration and the trends in ERP

Internet Technologies

Upon completion of this course students will be able to:

i. Get insights on basics of Internet and its terminologies.
ii. Understand the TCP/ IP protocols, internet addressing scheme
iii. Discuss various internet connectivity types.
iv. Attain basic knowledge on computer networks and security.
v. Explore the features of email and its services.

.NET Programming

Upon completion of this course students will be able to:

i. To understand the dot net framework and its features
ii. Explore the features of IDE and build window based applications using forms, controls, events, procedures and functions
iii. Understand exception handling, delegates and inheritance concept and write programs on console application.
iv. Create database connectivity programs usingADO.NET.
v. Gain knowledge on ASP.NET and design simple, dynamic webpages.

Software Development Lab II

Upon completion of this course students will be able to:

i. Acquire practical knowledge within the chosen area of information technology for project development.
ii. Identify, analyse, formulate and handle projects with a comprehensive and systematic approach.
iii. Apply knowledge of computing and information technologies to produce effective designs and solutions for specific computer-based problems.
iv. Effectively communicate during project development and present results for the area of interest.
v. Perform test to achieve specific computer based outcomes

Data Mining and Data Warehousing

Upon completion of this course students will be able to:

i. Understand the basic principles and concepts and of data mining and data warehousing.
ii. Identify the need for data pre-processing and various steps involved init.
iii. Categorize the methodologies and algorithms used in data mining. Familiar with association rule mining techniques and constraint based association mining.
iv. Identify the usages of Decision tree Algorithm, Bayesian Classification, Back Propagation techniques in classification analysis

v. Outline the applications and trends in Data mining. Compare various Mining Techniques such as Web mining, Sequence mining, Spatial mining etc.,

Mobile Technologies

Upon completion of this course students will be able to:

i. Grasp the concepts and features of Wireless transmission and compare various media of accessing wireless devices.
ii. Describe the components and functionalities of mobile network.
iii. Understand the applications of e-commerce and m-commerce
iv. Acquire the basic knowledge of architecture of various mobile OS and compare hybrid and native application.
v. Obtain the knowledge of applying IOT in various fields.

Environmental studies

Upon completion of this course students will be able to:

i. Understand, analyse the scope of environmental studies
ii. Analyse Functions of biodiversity
iii. Compare various types of natural resource
iv. Acquire knowledge on the environmental pollution.
v. Develop a solid waste management technique

Cloud Computing

Upon completion of this course students will be able to:

i. Understand Cloud Computing models and architecture of Cloud Computing.
ii. Describe the importance of virtualization along with their technologies.
iii. Summarize various architectural design and technologies.
iv. Analyse the components of open stack, open nebula, Aneka & Hadoop Cloud platform and understand Map Reduce and Amazon web Service.
v. Understand the importance of the security in the Cloud applications

Department of Mathematics

Course Outcomes – B. Sc Mathematics

Classical Algebra

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

i. specify the basic relations between roots and coefficients and solve the transformed equation.
ii. predict approximate solutions to equations.

iii. recognize the inequalities involving arithmetic mean, geometric mean and harmonic mean and the other standard inequalities and use it appropriately.
iv. recognize and distinguish binomial, exponential and logarithmic series and use it appropriately.
v. use computational techniques and algebraic skills essential for the study of systems of linear equations, matrix algebra, Eigen values and Eigenvectors.

Analytical Geometry-3d

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

i. explain the fundamental ideas about coordinate geometry.
ii. identify lines and planes from the given equations, also find the angle between them.
iii. describe the various forms of equation of a plane and straight line.
iv. measure the distance between points, lines and planes.
v. analyse the concept of sphere, cone and cylinder

Differential Calculus

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

i. illustrate the limit definition and recall the formulae and rules of differentiation to differentiate the given functions.
ii. make use of partial fraction and Leibnitz formula to find nth derivative of algebraic and trigonometric functions in addition to formation of equations involving derivatives.
iii. apply the concepts of differentiation to discuss the maxima and minima of the functions and find the equations of the tangent and normal.
iv. define and determine envelope, curvatures, involute and evolute of the curve.
v. identify and apply partial differentiation to determine the maxima and minima of functions of two variables and approximate error.

Programming in C

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

i. describe the concept of structure oriented programming and understand various C tokens.
ii. illustrate with examples the idea of conditional statements and looping statements.
iii. categorize one dimensional, two dimensional and multi-dimensional arrays.
iv. differentiate various ‘function prototypes’ and demonstrate nesting of functions.
v. distinguishes the idea of structures and unions, structure and arrays, structures and functions. Understand the basics of pointers.

Programming in C

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

i. execute simple programs using input/ output and conditional statements.

ii. execute simple programs using looping statements.
iii. execute simple programs using one-dimensional and two-dimensional arrays.
iv. execute simple programs using strings, string functions and functions.
v. execute simple programs using structures /unions and pointers.

Algebra – I

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

i. identify and analyse statements with truth tables and examine the validity of the verbal (or) symbolic arguments using rules of inference.
ii. illustrate sets, relations and functions and prove the statements for the same.
iii. define a group and illustrate various types of groups including the most general type of group called group of permutation.
iv. demonstrate with examples on normal subgroups and quotient groups.
v. analyse and infer the structural similarities between groups.

Analysis – I

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

i. recall elementary properties of real numbers which lead to the Archimedean property, countability and uncountability.
ii. demonstrate with example, sequences which are convergent, divergent and oscillating.
iii. Enumerate properties of converging sequences and also identifies the algebraicoperations on sequences
iv. Outline the concept of Cauchy sequence. Demonstrate the existence of limit superior and limit inferior for any sequences. Existence of limit points in any bounded infinite sets is demonstrated.
v. demonstrate with example, series which are convergent and divergent. Enumerate properties of converging series and also identifies the algebraic operations on series. predict correct choice of test and apply for test of convergence of series.

Integral Calculus

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

i. evaluate integrals by recalling the formulae and using techniques of integration, such as substitution, partial fractions and integration by parts.
ii. recall the reduction formulae and evaluate the definite integrals.
iii. distinguish and apply multiple integrals to find area, length of a curve and volume of solid revolution.
iv. evaluate double integrals using change of order of integration and change of variables.
v. illustrate the relation between Beta and Gamma functions and evaluate the definite integrals

Object Oriented Programming in C++

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

i. explain oops principles and distinguish between Structured and Object Oriented problem solving approaches and apply them based on the problem given
ii. describe the functions, overloading functions, inline and friend functions
iii. identify classes and objects from the given problem description and able to create classes and objects, constructors and destructors using C++
iv. explain Polymorphism with operator overloading and improve secured data processing by applying Abstraction and Encapsulation
v. analyse type conversions and create code reusability and extensibility by means of Inheritance

Object Oriented Programming in C++

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

i. identify, formulate the techniques of software development in the C++ Programming Language
ii. demonstrate these techniques by the solution of a variety of problems spanning the breadth of the language.
iii. execute a program in different logic with suitable validations for a given problem
iv. implement the techniques and features of the Object Oriented Programming to construct an application
v. execute programs implementing inheritance for an application domain

Algebra - II

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

i. Define rings and subrings and illustrate with examples.
ii. Demonstrate with examples on ideals, integral domain, quotient rings and also
iii. illustrate with examples the properties of structure preserving maps.
iv. Compare and contrast special types of fields.
v. Discuss at length the properties of polynomial rings.
vi. Outline the properties of lattices and Boolean algebra.

Analysis - II

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

i. recall the definition of the limits and use it to identify the continuity / discontinuity of a function at a point. Utilize effectively the consequences of Intermediate value theorem and make conclusions.
ii. explain in detail a metric space as an abstraction of the real line and its distance property which leads to the definition of open sets, closed sets, closure of a set, interior of a set

and dense set. Compare and contrast the definition of continuity in the real line and in any metric space. Distinguish continuity and uniform continuity with examples.

iii. demonstrate connectedness and correlate the relation between the space and its image under a continuous map with reference to connectedness.
iv. describe completeness and its relation with totally boundedness.
v. describe compactness of a metric space and compile all equivalent definitions.

Differential Equations

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

i. identify and solve different types of first order ordinary differential equation.
ii. identify and determine the solutions of second order differential equation. Also evaluate simultaneous differential equations.
iii. determine standard forms of partial differential equations, reduce equations to standard forms and hence solve using Lagrange's and Charpit's method.
iv. create and enlist the properties of Laplace transforms and Inverse Laplace transform from the basics to use as a tool to solve differential equations.
v. demonstrate the effective use of the new tool (Laplace Transforms) developed to solve differential equations with constant and variable coefficients.

Statistics – I

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

i. demonstrate with example a sample space. Outline the role of probability density function in determining the nature of probability.
ii. apply the moment generating function to determine moments and the relation to mean, standard deviation and variance. Measure the dispersion of the data of any distribution by chebychev's inequality.
iii. identify and apply various distributions to solve problems.
iv. evaluate the relation between different data.
v. fit the appropriate curve using the methods of least squares.

Algebra - III

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

i. explain the fundamental concepts of vector space and its associated spaces.
ii. predict the dimension of a vector space through an analysis on spanning set, linear independent set and basis.
iii. demonstrate the structural intricacy of vector spaces effected by linear transformations.
iv. illustrate the knowledge of inner product spaces as a special case of vector spaces and its applications.
v. demonstrate the use of the Gram Schmidt orthogonalization process to find the ortho normal basis and its relevant.

Analysis - III

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

i. define the Riemann integration of a bounded function on a closed interval. Identify the necessary and sufficient conditions for the existence of the integral and enumerate the properties of Riemann's integral.
ii. define the derivative of a function and deduce its properties.
iii. design Taylor's formula and its ramifications as a consequence of Mean value theorem for intervals.
iv. define and distinguish the difference between point wise convergence and uniform convergence. Enumerate the consequences on the uniform limit of the sequence of the functions which are integrable, differentiable and continuous.
v. discuss the convergence and uniform convergence of series of functions using standard tests. Enumerate the consequences on the uniform limit of the series of the functions which are integrable, differentiable and continuous.

Vector Calculus & Trigonometry

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

i. compute dot and cross products. Utilize these concepts to interpret geometrical properties of two or three dimensional objects
ii. analyse the differentiability of the functions by defining gradient, divergent and curl.
iii. demonstrate the interdependency of gradient, divergent and curl by making use of relevant theorems.
iv. demonstrate the use of the Demovire's theorem in calculating the nth root of unity and its consequences in the power series of sines and cosines and series of sines and cosines of multiples of θ.
v. formulate the analytic expression of Hyperbolic functions, logarithmic functions involving complex variables by using trigonometric summation.

Statistics – II

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

i. outline basic principles in sampling also apply testing hypothesis on large samples at appropriate situations.
ii. apply testing hypothesis on small samples at appropriate situations.
iii. analyse various index numbers and formulate the procedure to measure the change in the variable over the period of time.
iv. predict the future values based on previously observed values using concept of the time series.
v. evaluate the interdependency of two or more variables.

Mechanics

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

i. outline basics that are governing system of forces.
ii. explain the idea of couples and illustrate equilibrium of three forces acting on a rigid body in appropriate physical systems.
iii. examine resultant of coplanar forces under various circumstances. Define and apply the concept of friction.
iv. define principles of conservation of momentum and apply the concept of direct impact and oblique impact in collision of objects.
v. describe the orbit of a moving particle under the action of central forces and compute moment of inertia.

Graph Theory

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

i. demonstrate graphs with examples and represent a graph by matrices.
ii. identify and construct Eulerian and Hamiltonian graphs.
iii. describe the properties of trees and able to examine minimal spanning tree for a given weighted graph.
iv. discuss colouring concept of vertices and edges of a graph
v. analyse planar graphs and its properties, and classify the connectedness of directed graph.

Operations Research – I

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

i. formulate Linear Programming Problem (LPP), find its solution by graphical method and identify the special cases of solution.
ii. predict solutions of different types of LPP using appropriate methods, namely, simplex, Big M and two-phase method
iii. exploit the concept of dual simplex method and solve LPP.
iv. solve transportation and assignment problems using primal dual algorithm and extend it for special cases.
v. propose the best strategy in a game using different decision making tools.

Combinatorics

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

i. demonstrate effectively the addition and multiplication principles and use it for counting.
ii. use generating functions and the concept of partition to solve combinatorial problems.
iii. model recurrence relations using different techniques for real time counting problems and find solutions.

iv. special counting numbers such as Fibonacci number, Stirling numbers, Catalan number and Menage number.
v. design a new counting principle called inclusion and exclusion principle and use it for counting problems.

Environmental Studies

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

i. explain different types of ecosystem, relation between food chain and ecological pyramids, determine geographical classification and conservation of bio-diversity.
ii. create awareness on environmental pollution issues, its effects on ecosystem and measures to control and conserve the natural environment.
iii. analyse energy resources and know the optimal utilization of energy resources.
iv. describe environmental ethics, awareness on solid waste management and emphasize house hold environment and health.
v. create mathematical models for environmental issues using differential equation, linear programming and chaos theory and hence obtain solution for environmental issues.

Number Theory

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

i. recall the basic concepts of divisibility.
ii. demonstrate renowned theorems in solving congruences.
iii. discuss on quadratic congruence equations.
iv. analyse various arithmetical functions.
v. identify the numbers of special form and apply divisibility rules in solving Diophantine equations.

Complex Analysis

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

i. explain the geometry of complex numbers. Demonstrate bilinear transformation as composition of elementary transformations. Compile the relation between bilinear transformation and cross ratio.
ii. differentiate differentiability and analyticity. Characterize analytic function with Cauchy Riemann equations and further properties of partial derivatives.
iii. outline the procedure for integration of complex functions. Use cauchy's integral formula and its consequences to prove most important theorems.
iv. compute power series expansion in connected region, annular region of an analytic function.

v. identify different types of singularities and poles, calculate the residue. Use contour integration to find integrals of real valued functions of certain type.

Operations Research - II

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

i. demonstrate the use of simplex method in analysing the sensitivity of the optimal solution in terms of change in the cost vector/ requirement vector/coefficient matrix/addition or deletion of variable.
ii. compute to optimize an I.P.P using Gomary's method
iii. design new models imitating PERT/CPM, solve PERT/CPM, predict the probability of project completion time.
iv. formulate different inventory models and identify formula to calculate different parameters.
v. develop different queuing models with suitable parameters and compute solutions.

Fuzzy Mathematics

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

i. distinguish between the crisp set and fuzzy set and draw a parallelism between crisp set operations and fuzzy set operations through the use of characteristic functions of crisp sets and membership functions of fuzzy sets, respectively.
ii. discuss properties of $\alpha - cuts$ and various representation of fuzzy sets.
iii. extend the binary operations union, intersection, complementation of crisp sets to fuzzy sets.
iv. outline the concept of fuzzy numbers and arithmetic operations, and to solve fuzzy equations.
v. distinguish fuzzy relation from crisp relation and solve fuzzy relation equations.

Maths for Physics - I

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

i. compute the curl and the divergence of vector fields
ii. evaluate line integrals, surface integrals and volume integral and use Stoke's theorem, Green's theorem, divergence theorem to illustrate the relation between any two of the above three.
iii. compute Eigen values using elementary transformation, compare and contrast the inter relationship between different coordinate systems
iv. apply Cauchy Riemann equation to identify analytic functions
v. compute complex integration and apply Cauchy theorem to characterize analytic functions. Compute the residues and use it for evaluation of the definite integrals.

Mathematics for Economics

At the end of the course, student will be able to:

i. identify and solve linear and quadratic equations, examine the nature of roots and the relations between roots and coefficients.
ii. apply matrix operations to solve simultaneous equations.
iii. discuss the concept of derivatives of a function and apply this to find maxima and minima.
iv. illustrate the concepts of integration and find area between curves.
v. demonstrate and solve first and second order differential equations.

Maths for Physics- II

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

i. distinguish between linear, nonlinear, partial and ordinary differential equations and solve homogeneous, non homogeneous, linear and exact differential equations
ii. solve second order differential equation with constant, variable and polynomial coefficients
iii. classify and solve the partial differential equations of standard types
iv. explain the relationship between Fourier series and linear time-invariant system
v. formulate recurrence relations for Legendre and Hermite differential equations

Fundamentals of Computer Applications

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

i. identify the physical components of computer.
ii. create, Edit and format documents, print the letters using mail merge in Microsoft Word.
iii. construct formulas, including the use of built-in functions, create charts using Microsoft Excel.
iv. design a presentation using Microsoft Power point.
v. use internet applications and explain various features of multimedia.

Fundamentals of Computer Applications

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

i. work confidently with a computer as he gets hands on experience in an academic ambiance.
ii. demonstrate the ability towards data entry in MS-word.
iii. create a bio-data using Ms-|word
iv. create a sheet and insert different charts
v. create a power point slide show with auto animation effects.

Maths for Chemistry - I

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

i. identify the different types of matrices and associated operations
ii. solve system of homogeneous/ non homogeneous equations. Apply Cayley Hamilton theorem to find inverse of a matrix.
iii. illustrate the concepts of sets, relations, functions, groups, rings and fields.
iv. identify and apply large and small sample tests.
v. apply numerical techniques to find roots of algebraic/ transcendental equations and evaluate numerical differentiation and integration.

Business Statistics

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

i. demonstrate and compute measures of central tendency and measures of dispersion
ii. compute correlation and regression for bivariate data.
iii. compute probability using addition and multiplication theorem and Baye's theorem.
iv. identify and apply sampling techniques to test hypothesis
v. evaluate and analyse the variance for one-way, multi-way classifications

Maths for Chemistry – II

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

i. apply the concept of differentiation of functions
ii. identify and apply partial differentiation to determine the maxima and minima of functions of two variables.
iii. evaluate definite and indefinite integrals
iv. formulate and solve the first and second order differential equations
v. use Laplace transform techniques to solve differential equations

Business Mathematics

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

i. realize the concept of derivatives of a function and determine the maxima and minima of a function.
ii. describe the concept of integration and distinguish/ solve definite and indefinite integrals and applying these concepts in real life situations.
iii. identify and apply matrix operations to solve simultaneous equations.
iv. compute the optimum solutions of Transportation and Assignment problems.
v. assess the best strategy in game theory using dominance rule and graphical method for both pure and mixed strategies.

Maths for Chemistry - I

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

i. identify the different types of matrices and associated operations
ii. solve system of homogeneous/ non homogeneous equations. Apply Cayley Hamilton theorem to find inverse of a matrix.
iii. illustrate the concepts of sets, relations, functions, groups, rings and fields.
iv. identify and apply large and small sample tests.
v. apply numerical techniques to find roots of algebraic/ transcendental equations and evaluate numerical differentiation and integration.

Business Statistics

At the end of the course, students will able to

i. demonstrate theoretical, graphical and diagrammatic representation of statistical data.
ii. analyse statistical data using measures of central tendency and measures of dispersion.
iii. interpret and calculate the correlation and regression between two variables.
iv. analyse various index numbers and formulate the procedure to measure the change in the variable over the period of time.
v. measure the trend or variation existing in a time series data and demonstrate the basic concepts of probability

Discrete Mathematics

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

i. write an argument using logical notation and determine if the argument is valid or not demonstrate the basic principles of sets, relations and functions with examples. Also
ii. outline basic concepts of Boolean algebra and lattices
iii. outline the basic tools in counting principles in combinatorial structures.
iv. acquire the knowledge of algebraic structures and apply Lagrange's theorem to solve problems.
v. demonstrate theories, concepts and techniques in automata and their link to computations.

Maths for Chemistry – II

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

i. apply the concept of differentiation of functions
ii. identify and apply partial differentiation to determine the maxima and minima of functions of two variables.
iii. evaluate definite and indefinite integrals
iv. formulate and solve the first and second order differential equations
v. use Laplace transform techniques to solve differential equations

Statistics

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

i. analyse statistical data using measures of central tendency/dispersion.
ii. calculate and interpret the correlation/regression between two variables.
iii. apply the basic probability rules to solve problems.
iv. identify and solve the problems on sampling distribution.
v. analyse the variance of one / two way classification and design Latin square.

Business Statistics

At the end of the course, students will able to

i. recognize the basic concepts of Statistics theoretically.
ii. examine statistical survey, collection of data and various representations of data and analyse statistical data using measures of central tendency.
iii. analyse statistical data using measures of dispersion.
iv. calculate and interpret the correlation between two variables.
v. apply regression analysis in business, analyse various index numbers and measure the trend existing in a time series data

Business Mathematics

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

i. solve problems in objective arithmetic.
ii. compile different rules governing counting principles and solve problems in permutation and combination.
iii. solve linear equations involving two variables and also quadratic equation.
iv. compute the sum to n terms of an arithmetic/geometric progression and its relevance in the field of accounting.
v. utilize the methods and principles in differential calculus to solve problems in business world.

Operations Research

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 problem.
iii. identify the concept of assignment problem and its solutions.
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.

Business Statistics

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

i. demonstrate the fundamental concepts in data analysis and recognizes the importance of Statistics in various fields.
ii. analyse and interpret statistical data using measures of central tendency, quartiles and percentiles.
iii. recognize the importance of measuring dispersion and solve appropriate problems.
iv. calculate and interpret the correlation and regression between two variables.
v. demonstrate the different methods of computation of index numbers with examples.

Quantitative Techniques

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

i. demonstrate the concept of matrix algebra and recall the concepts of probability.
ii. formulate a problem into an Linear Programming Problem (LPP) and optimize using graphical and simplex method.
iii. compute the optimum solution of transportation problems.
iv. identify and evaluate assignment problems.
v. assess the best strategy in game theory using dominance rule and graphical method for both pure and mixed strategies.

Business Statistics

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

i. demonstrate the fundamental concepts in data analysis and recognizes the importance of Statistics in various fields.
ii. analyse and interpret statistical data using measures of central tendency, quartiles and percentiles.
iii. recognize the importance of measuring dispersion and solve appropriate problems.
iv. calculate and interpret the correlation and regression between two variables.
v. demonstrate the different methods of computation of index numbers with examples.

Numerical and Statistical Methods

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

i. demonstrate various numerical methods and use them to solve algebraic, transcendental and system of linear equations.
ii. identify interpolations on equal/unequal intervals and solve relevant problems using appropriate methods.
iii. use numerical methods with various mathematical operations such as differentiation and integration.
iv. demonstrate to obtain measures of central tendencies /dispersion with examples.

v. apply the basic probability rules to solve problems and calculate correlations.

Business Mathematics

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

i. the basic principles of sets and functions with examples.
ii. demonstrate identify the concepts of matrix algebra.
iii. discuss the concepts of time series with examples.
iv. use the basic probability rules and apply probability theory using Bayes' Rule.
v. recognize to solve problems using theoretical distributions.

Operations Research

At the end of the course, 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 problem.
iii. identify the concept of assignment problem and its solutions.
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.

Biostatistics

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

i. recognize and identify the basics of statistics and classify variables as categorical / quantitative
ii. differentiate between central tendencies and dispersion with examples.
iii. interpret and calculate the correlation and regression between two variables.
iv. apply the basic probability rules and theoretical distributions to solve problems.
v. identify and solve the problems on sampling distribution, ANOVA.

Business Mathematics

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

i. demonstrate the basic principles of sets and functions with examples.
ii. identify the concepts of matrix algebra.
iii. discuss the concepts of time series with examples.
iv. use the basic probability rules and apply probability theory using Bayes' Rule.
v. recognize and solve problems using theoretical distributions and tests of significance.

Biostatistics

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

i. recognize and identify the basics of statistics and classify variables as categorical / quantitative
ii. differentiate between central tendencies and dispersion with examples.
iii. interpret and calculate the correlation and regression between two variables.
iv. apply the basic probability rules and theoretical distributions to solve problems.
v. identify and solve the problems on sampling distribution, ANOVA.

Arithmetic and Mathematical Logic

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

i. apply the basic concepts of quantitative and arithmetic ability to solve problems in competitive exams.
ii. gain basic knowledge of statistics which is applicable in real life.
iii. outline the basic principles and operations on sets
iv. write symbolic representation of statements.
v. analyse the validity of a statement using truth table.

Recreational Mathematics

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

i. create magic squares of different orders.
ii. demonstrate Fallacies and Paradoxes with examples.
iii. compute products and divisions using speed arithmetic.
iv. demonstrate simple combinatorial rules with real time examples.
v. design recurrence relation for simple models like tower of Hanoi and Fibonacci

Mathematics for Life

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

i. compile the brief history of calendars, compare and contrast various number systems.
ii. demonstrate speed arithmetic for multiplication and division.
iii. outline few graph theory models in real life.
iv. compile daily/monthly/annual astronomical events.
v. demonstrate with a diagram the conditions favourable for lunar and solar eclipse.

Mathematical Reasoning

At the end of the course the student will be able to

i. predict the relation with verbal reasoning.
ii. predict the relation with non-verbal reasoning.

iii. analyse the sense of directions.
iv. use logical deductions to verify the validity of the conclusion.
v. differentiate cause and effect, derive conclusions from passage.

Mathematics for Competitive Examinations

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

i. express the efficiency in dealing with multiplication and division on numbers
ii. identify and demonstrate the use of arithmetic mean, geometric mean and harmonic mean in real life situations.
iii. demonstrate the use of mathematical logic as a tool for solving problems
iv. effectively use inclusion and exclusion principle for counting.
v. enumerate the techniques and tools in calculating measures of standard geometric objects.

Developing Quantitative Aptitude

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

i. formulate problems connected with age, numbers as simultaneous equations and solve
ii. solve problems involving ratio and proportion, profit and loss
iii. convert time and work, time and distance, pipes and cistern into mathematical equations and solve
iv. solve problems involving simple/ compound interest and solve problems on mixture using allegation rule.
v. identify the rules governing indices and surds, and logarithms and solve simple problems.

Department of Microbiology

Course Outcomes – B. Sc Microbiology

General Microbiology

Upon completion of this course, students will be able to

i. Outline the contributions of eminent scientists in the field of Microbiology.
ii. Explain the organization of prokaryotic cell.
iii. Analyse the ways to control the growth of microbes by physical and chemical methods.
iv. Explain the methods of isolation of organisms, pure culture techniques and maintenance.
v. Critique the recent developments in Microbiology.

Lab in General Microbiology

Upon completion of this course, students will be able to

i. Apply the aseptic techniques and proper handling of glassware and equipments.

ii. Prepare various culture media for the cultivation of microbes.
iii. Demonstrate pure culture isolation and maintenance.
iv. Use various staining techniques for morphological characterization of microbes.
v. Utilize storage technique for bacteria and fungi

Microbial Taxonomy and Diversity

Upon completion of this course, students will be able to

i. Outline the general features and categories of microbes.
ii. Explain the Bergey's manual of classification of bacteria.
iii. Discuss the common characteristics, importance and Alexopoulos classification of fungi.
iv. Identify the morphological characteristics, importance and classification of algae and protozoa.
v. Assess the Baltimore and ICTV Classification system of viruses.

Biochemistry

After completion of this course, students should be able to

i. Outline the basic concepts such as chemical bonds, functional groups, chemical reactions, pH and buffers.
ii. Discuss the structure, properties and function of carbohydrates.
iii. Analyse the structure, properties and function of lipids.
iv. Explain the general structure, properties and classification of proteins.
v. Assess the classification, properties and biological functions of enzymes and vitamins.

Health and Hygiene

Upon the completion of this course, students will be able to

i. Explain the concepts and trends in dimensions of health.
ii. Revise the hygienic awareness and practices.
iii. Compile the health planning objectives.
iv. Assess the need for health education and communication.
v. Rate the levels of health care system in current scenario.

Infectious Diseases

Upon the completion of this course, students will be able to

i. Outline the epidemiology, various phases and stages of infection.
ii. Identify the normal microflora and their host interactions.
iii. Discuss the mode of pathogenesis in infectious diseases.
iv. Analyse the hospital acquired infections and their impact.
v. Formulate strategies for the prophylaxis.

Food and Dairy Microbiology

Upon completion of this course, students will be able to

i. Outline the sources and components of food and their preservation techniques.
ii. Analyse the factors influencing the food spoilage.
iii. Apply principles of various facets of food fermentation technology.
iv. Design appropriate techniques for the recovery of fermented products
v. Compare the production processes of various fermented foods.

Lab in Food and Dairy Microbiology

Upon completion of this course, students will be able to

i. Analyse the microbial contaminants found in the food products.
ii. Identify and characterize specific organisms found in spoiled food.
iii. Apply the techniques to grade food products.
iv. Demonstrate the production of fermented food products.
v. Plan visits to food industries.

Microbial Genetics

Upon completion of this course, students will be able to

i. Evaluate the importance of mutations and their effects.
ii. Discuss the properties of plasmids and mobile genetic elements.
iii. Assess the competency of microbes to uptake DNA.
iv. Compare different mechanisms of gene transfer.
v. Outline the biology of phage's and their role in gene transfer

Microbial Physiology and Metabolism

Upon completion of this course, students will be able to:

i. Outline the diverse nutritional needs of microbes
ii. Explain the physiological changes in microbes during growth
iii. Evaluate the laws of Thermodynamics in metabolic reactions.
iv. Compare microbial aerobic and anaerobic respiration.
v. Assess the microbial metabolism of proteins and fats, and the role of photoautotrophs.

Nutritive Value of Food

Upon completion of this course, students will be able to

i. Outline the basic classification of food and its nutritive value.
ii. Analyse the constituents, composition and nutritional aspects of vegetables and fruits.
iii. Discuss the quality processing, storage and preservation techniques of milk and milk products.

iv. Explain the detection and mechanism of spoilage in foods.
v. Evaluate the significance of next generation foods and strategies to combat nutritional problems.

Health and Hygiene

Upon the completion of this course, students will be able to

i. Explain the concepts and trends in dimensions of health
ii. Evaluate the hygienic awareness and practices
iii. Discuss the health planning objectives
iv. Critique the need for health education and communication
v. Assess the levels of health care system

Clinical Bacteriology and Mycology

Upon completion of this course, students will be able to,

i. Identify the importance of epidemiology.
ii. Utilize the concepts of normal microflora and their importance in human health.
iii. Explain mechanisms of pathogenesis (Bacteria & Fungi) with clinical importance.
iv. Evaluate modern laboratory diagnostic methods.
v. Outline the significance of prophylaxis and therapeutic management.

Lab in Clinical Microbiology

Upon completion of this course, students will be able to

i. Identify the common pathogens and the diseases they cause.
ii. Demonstrate the methods of sample collection and transport of biological specimen.
iii. Apply techniques to culture microbes of clinical importance.
iv. Identify and characterize fungi microscopically.
v. Predict the susceptibility of microorganisms to drugs

Molecular Biology

Upon completion of this course, students will be able to:

i. Discuss the structure, properties and functions of nucleic acids
ii. Compare the mechanisms of DNA replication and repair between prokaryotes and eukaryotes
iii. Explain the process of transcription in prokaryotes and eukaryotes.
iv. Compare the mechanisms involved in translation between prokaryotes and eukaryotes
v. Assess the concept of gene regulation in prokaryotes and eukaryotes

Bioinstrumentation

Upon the completion of this course, students will be able to

i. Outline the principles, types and applications of chromatography
ii. Explain the basic principles and compare the various types of centrifuges
iii. Analyse the principle and applications of colorimetry
iv. Discuss the principles, types and applications of electrophoresis
v. Assess the safety and utility of radioisotopic techniques

Fundamentals of Pharmacology

Upon completion of this course, students will be able to

i. Outline the history and scope of pharmacology
ii. Explain the structure of drug and drug targets
iii. Design routes and drug delivery systems
iv. Formulate drug dosage and clinical trials pertaining to regulatory agencies
v. Evaluate assays for sterile pharmaceutical and immunological products

Immunology

Upon completion of this course, students will be able to

i. Identify the basic concepts in Immunology such as cells, and organs of immune system.
ii. Explain antigens, antibodies and their interactions.
iii. Assess humoral immune response and antibody diversity
iv. Discuss cell mediated immune response
v. Outline the regulation of immune response and disorders of the immune system

Lab in Immunology

Upon completion of this course, students will be able to

i. Identify the primary and secondary lymphoid organs.
ii. Assess the steps involved in raising polyclonal antibodies
iii. Demonstrate the diagnostic tests based on antigen-antibody interactions
iv. Perform ABO blood grouping and detection of HIV
v. Apply skin tests for allergy reactions.

Industrial Microbiology

Upon completion of this course, students will be able to

i. Revise the history and development of Industrial Microbiology
ii. Explain the methods of screening, strain improvement and preservation of production strains

iii. Analyse the source, components, importance and sterilization of fermentation media
iv. Demonstrate the basic design of a fermenter and its types
v. Discuss the steps in downstream processing and assess the nature and utility of various fermented products

Clinical Virology and Parasitology

Upon completion of this course, students will able to

i. Outline the general characteristics and pathogenesis of viruses
ii. Discuss the various replication strategies of viruses and the human diseases they cause.
iii. Compare the life cycles and diseases caused by medically important protozoan parasites
iv. Assess the worldwide burden of helminth infections and the diseases caused by helminths
v. Compile the different diagnostic procedures, and treatment strategies for viral and parasitic infections

Genetic Engineering

Upon completion of this course, students will be able to

i. Explain the mechanisms of action of restriction endonucleases and DNA modifying enzymes.
ii. Discuss the biology of cloning and expression vectors and their methods of gene transfer into bacteria, plants and animals.
iii. Evaluate the cloning strategies of genomic library & cDNA construction, PCR, blotting techniques and DNA sequencing.
iv. Compare the various methods of selection and screening of recombinants
v. Assess the various applications of genetic engineering

Lab in Genetic Engineering

Upon completion of this lab course, students will able to

i. Perform isolation of genomic DNA and plasmids from bacteria.
ii. Perform isolation & purification of DNA from yeast, plant and animal tissues.
iii. Demonstrate quantification of DNA by spectrophotometric and electrophoretic methods
iv. Analyse the restriction digestion of DNA fragments
v. Demonstrate SDS-PAGE and silver staining of proteins

Plant and Animal Cell Culture

Upon completion of this course, students will be able to

i. Outline the requirements and techniques of plant tissue culture.

ii. Explain the micropropagation and in vitro conservation process.
iii. Discuss concepts of animal cell culture and types of media.
iv. Demonstrate the techniques of primary explanation, monolayer culturing, and cell line characterization.
v. Assess the applications of animal cell culture.

Lab in Plant and Animal Cell Culture

Upon completion of this course, students will be able to

i. Prepare plant and animal cell culture media.
ii. Perform culturing of callus, shoot & root.
iii. Demonstrate primary explant culture and cell culture preparation,
iv. Identify the monolayer and suspension culture.
v. Assess the viability of the cultured cells.

Bioinformatics

Upon completion of this course, students will be able to

i. Explain the history of bioinformatics
ii. Outline computational tools of bioinformatics
iii. Compare DNA, RNA and protein sequences for analytical studies
iv. Assess phylogenetic methods
v. Identify new research fields in biology

Environmental Studies

upon completion of this course, students will be able to

i. outline the values of renewable and non-renewable resources.
ii. evaluate the concept, functions and types of ecosystems.
iii. discuss the values of biodiversity and importance of conservation.
iv. compare different types of pollution and assess the various waste management strategies
v. critique the importance of sustainable development, climate change and population explosion.

Environmental & Agricultural Microbiology

Upon completion of this course, students will be able to

i. Revise information on microbial communities of air and water
ii. Explore the types of microbial interactions.
iii. Compare the soil profiles and their perspectives of ecological zonation
iv. Apply principles and applications of microbes in environmental clean up
v. Design organic farming methods for sustainable agriculture

Lab in Environmental & Agricultural Microbiology

Upon completion of this course, students will be able to

i. Identify beneficial organisms from different ecosystems.
ii. Utilize their skill-based techniques in agricultural field.
iii. Compare the importance of biofertilizers.
iv. Rate new technologies for the betterment of the environment.
v. Design experiments to study various environments.

Medical Laboratory Technology

Upon completion of this course, students will able to

i. Outline the infrastructure of a clinical laboratory
ii. Assess the various metabolic disorders and their diagnosis
iii. Explain the techniques for handling, examination and storage of different body fluids for clinical examination
iv. Assess blood collection methods and various haematological techniques
v. Explain the methods of slide preparation for histopathological examination.

Lab in Medical Laboratory Technology

Upon completion of this course, students will able to

i. Evaluate and analyse various clinical samples
ii. Demonstrate basic haematology techniques
iii. Apply the biochemical tests to analyse serum and urine samples
iv. Analyse pus and stool samples.
v. Plan visits to different medical laboratories

Pollution & Waste Management

Upon completion of this course, students will be able to

i. Outline information on air and soil pollutants and their control measures
ii. Assess standards and control measures for water and noise pollution
iii. Compare global and regional perspectives of environmental pollution
iv. Identify the sources, causes and types of solid wastes
v. Plan techniques for solid waste disposal and disaster management

Department of Physics

Course Outcomes – B. Sc Physics

Physics of Motion

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

i. describe two and three dimensional motions and conservation of momentum in a system of particles;
ii. apply law of conservation angular momentum appropriately in rigid body rotations, relate the rotational and translational parameters based on rotational kinematic;
iii. explain the rotational kinematics and evaluate the inter-relationship between work and energy;
iv. explain the concept of fluid dynamics and its applications;
v. describe SHM and list the wave types and its properties; and analyse the properties of sound waves and Doppler Effect.

Energy Physics

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

i. identify the renewable and non-renewable energy sources and describe their applications;
ii. classify the types of solar energy collectors and cells;
iii. describe the various thermal and electrical applications;
iv. identify various non-conventional energy sources and their uses; and
v. devise methods for energy storage systems.

Physics Lab - I

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

i. experience hands-on training in the measurements;
ii. perform data and error analysis;
iii. relate with the respective theoretical concepts;
iv. record and process the measurements; and
v. arrive at conclusions for significance of the experiments.

Geometrical & Physical Optics

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

i. design lenses of required focal length and magnification;
ii. identify and reduce optical aberrations and design some basic optical instruments;
iii. describe interference patterns and design basic interferometers;
iv. explain Fraunhofer diffraction pattern and its effect on Optical instruments; and
v. elucidate Fresnel diffraction pattern and use Fresnel's Integrals in Solve Diffraction Problems.

Electrodynamics

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

i. explain the concept of Coulomb's and Gauss' laws and their applications;
ii. diagnose the electric circuits;
iii. compare and relate electricity and magnetism;
iv. interpret the concepts of magnetic induction and classify magnetic materials; and
v. construct the basic equations of electro-magnetism and describe the propagation of electromagnetic waves.

Physics Lab – II

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

i. experience hands-on training in the measurements;
ii. perform data and error analysis;
iii. relate with the respective theoretical concepts;
iv. record and process the measurements; and
v. arrive at conclusions for significance of the experiments.

Physics for Chemists - I

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

i. describe the concept of temperature and molecular properties of gases;
ii. discuss the applications of first and second law of thermodynamics;
iii. elucidate the working principle of LASER and the basics of molecular spectroscopy;
iv. explain the image formation in lenses and mirrors; and
v. describe interference, diffraction and polarization of light.

Physics Lab for Chemists - I

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

i. have hands-on experience in the measurements;
ii. record and process the measurements;
iii. correlate with the respective theoretical concepts; and
iv. explain the significance of the experiment.

Physics for Chemists - II

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

i. describe the laws governing electric field and evaluate the electric field for various charge distribution;
ii. discuss the electric potential in different configurations;
iii. describe the laws governing magnetic field and classify the magnetic materials;

iv. explain the operation of electronic devices and their simple applications; and
v. design logic circuits using gates.

Physics Lab for Chemists -II

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

i. attain hands-on experience in the measurements;
ii. record and process the measurements;
iii. correlate with the respective theoretical concepts; and
iv. draw non-trivial conclusions of the significance of the experiments.

Handling of Tools & Machines

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

i. identify the common tools and select the right tool for a given job;
ii. classify the different types of holding and cleaning tools;
iii. list the safety rules and uses of power tools;
iv. explain the principle, working and uses of machine tools; and
v. discuss about shaper, planer machine and house hold wiring.

Physics of Music

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

i. explain the sound terminology and usage in music;
ii. illustrate the basic physics of music production;
iii. analyse the quality of sound;
iv. demonstrate the working of certain sound producing instruments; and
v. discuss the acoustics of buildings.

Photography and Digital Editing

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

i. identify different cameras and their potential uses from early days to modern day photography;
ii. discuss the fundamentals of digital photography of lenses focus modes;
iii. describe the digital fundamentals of optics of lenses and its compositions and file formats
iv. use various digital editing tools and techniques;
v. apply software's basics tools for digital editing;

Basic Electricity & Electronics

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

i. explain the basics of electricity;

ii. identify the basic electrical components and its uses;
iii. describe the principle and working of electrical devices;
iv. elucidate the digital logic and number systems; and
v. design simple digital logic circuits.

Wonders of Sky

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

i. describe the development of early astronomy and coordinate systems;
ii. elucidate occurrence of seasons, eclipses and the solar system;
iii. interpret stellar magnitudes and explain the evolution and final stages of star;
iv. classify types of telescopes and their uses; and
v. discuss the origin of universe and laws governing it.

Analog Electronics

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

i. interpret the basics circuit laws;
ii. characterize the semiconductor devices and circuits;
iii. describe the theoretical models of transistor amplifier circuits;
iv. design and explain oscillator circuits; and
v. explain the characteristics of operational amplifier and apply it for constructing amplifiers and oscillators.

Mathematical Physics

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

i. formulate and solve the partial differential equations in physics;
ii. describe the special polynomials and their properties;
iii. apply special functions to describe physical systems;
iv. classify the types of matrices and determine Eigenvalues and Eigenvectors; and
v. explain the Fourier and Laplace transforms and their uses.

Modern Optics

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

i. calculate the intensity change and phase differences of light waves upon reflection from dielectric and metallic surfaces;
ii. explain the working of lasers and its applications;
iii. describe the characteristics of two dimensional Fourier transform and explain the diffraction effects in optical systems;
iv. elucidate the concepts of Crystal Optics; and
v. use the theories in optics to explain fiber optics communication.

Physics Lab – III

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

i. get hands-on experience in the measurements;
ii. construct experiments on optics and electricity and illustrate the related theoretical concepts;
iii. compute observed values and compare with the standards;
iv. examine the measurements to draw valid conclusions; and
v. work cooperatively in a small group environment.

Digital Electronics

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

i. apply digital logic for designing combinational logic circuits;
ii. explain various number systems and their applications;
iii. describe data processing circuits;
iv. classify and realize various sequential circuits; and
v. elucidate various timing circuits, D/A and A/D conversion techniques andmemory devices.

Classical Mechanics

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

i. classify the types of constraints and describe the constrained motion;
ii. formulate the Lagrange's equations of motion and describe Hamilton's principle;
iii. articulate the Kepler's laws and arrive at equations of motion using Hamilton's equations;
iv. explain Poisson and Lagrange's brackets and describe rigid body dynamics; and
v. apply the theory of small oscillations and find normal modes of coupled oscillations.

Quantum Mechanics and Relativity

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

i. explain the special theory of relativity and its consequences;
ii. discuss and establish the dual nature of matter;
iii. describe the wave mechanical concepts of quantum systems;
iv. elucidate the basic formalism of quantum mechanics; and
v. devise and explain exactly solvable quantum systems.

Physics Lab-IV

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

i. get hands-on experience in the measurements;
ii. record and process the measurements;

iii. troubleshoot electronic circuits;
iv. correlate with the respective theoretical concepts; and
v. draw non-trivial conclusions of the significance of the experiments.

Physics for Mathematics-I

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

i. describe linear and angular motion in 1D and 2D systems;
ii. evaluate the energy in a system of particles;
iii. explain the mechanics of particles under gravitation;
iv. distinguish harmonic motion under free, damped and forced conditions; and
v. ascertain the propagation of mechanical waves in elastic media.

Physics Lab for Mathematics - I

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

i. attain hands-on experience in the measurements;
ii. record and process the measurements;
iii. correlate with the respective theoretical concepts; and
iv. draw non-trivial conclusions of the significance of the experiments.

Physics for Mathematics-II

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

i. explain the basics of Electrostatics;
ii. discuss the electric potential in different configurations;
iii. describe the laws governing magnetic field and resonance;
iv. explain the operation of electronic devices and their simple applications; and
v. design logic circuits using gates.

Physics Lab for Mathematics - II

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

i. attain hands-on experience in the measurements;
ii. record and process the measurements;
iii. correlate with the respective theoretical concepts;
iv. apply the analytical techniques and graphical analysis to the experimental data; and
v. draw non-trivial conclusions of the significance of the experiments.

Solid State Physics

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

i. determine the structure factors of fundamental crystal lattices;

ii. analyse the X-ray diffraction patterns of simple crystal structures;
iii. classify the different crystal binding forces and explain the vibrations of lattice structures;
iv. describe the quantum theories of energy bands and their consequences;
v. classify the materials based on their electrical properties; and explain the basics of superconductivity based on experimental facts.

Thermodynamics & Statistical Physics

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

i. explain the basic concepts of thermodynamics and applications of first law of thermodynamics;
ii. apply first and second laws of thermodynamics and derive thermodynamic relations;
iii. implement laws of thermodynamics to elucidate simple thermodynamic systems;
iv. distinguish the properties of different statistical distributions; and
v. employ the principles of statistical mechanics to solve simple problems.

Microprocessor & Communication Systems

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

i. explain the architecture of microprocessor and its coding scheme;
ii. implement simple programs using assembly language;
iii. classify different types of modulation and demodulation techniques;
iv. describe various types of receiver systems; and
v. elucidate the satellite communication.

Physics Lab-V

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

i. get hands-on experience in the measurements;
ii. record and process the measurements;
iii. troubleshoot electronic circuits;
iv. correlate with the respective theoretical concepts; and
v. draw non-trivial conclusions of the significance of the experiments.

Atomic Physics & Spectroscopy

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

i. explain basic atomic models and their related phenomena;
ii. describe interaction of atoms with external fields, and spectrum of many electron atoms;
iii. elucidate the rotational spectra of molecules;
iv. interpret the vibrational spectra of molecules; and
v. explain Raman spectroscopy and its applications.

Nuclear and Particle Physics

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

i. explain the stability of the nucleus and the signatures of nuclear models;
ii. classify various types of nuclear decay processes;
iii. describe the functions and characteristics of detectors and accelerators;
iv. illustrate the key features of nuclear fission and fusion and their applications; and
v. categorize the elementary particles and their symmetries.

Astronomy &Astrophysics

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

i. summarize the birth of modern astronomy, solar system and also define basic measurements in astronomy;
ii. describe the functioning of refractor, reflector, UV and gamma ray telescopes and their extension towards spectral analysis;
iii. identify the spectral classification of stars, its magnitudes and also illustrate the birth and death of stars and to estimate the stellar magnitudes;
iv. explain types of Galaxy and Milky way galaxy and comprehend the extragalactic events; and
v. elucidate the origin of universe and various models based on cosmological principles

Environmental Studies

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

i. identify renewable and non-renewable energy resources;
ii. preserve the ecosystem for future generation;
iii. classify the bio-geography at global, national and local levels;
iv. examine various types of pollutions and their impacts; and
v. as certain human health from environmental problems.

Physics Project

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

i. extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems;
ii. plan, execute and report the results of an experiment or investigation;
iii. work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group;
iv. use ICT in a variety of learning situations;
v. express thoughts and ideas effectively in writing and orally.

PC Management and Maintenance

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

i. identify different parts of a computer;
ii. enumerate various types of computers and troubleshoot booting problems;
iii. install operating systems and hard disk partition;
iv. perform basic maintenance operations using DOS commands; and
v. explain various tools in networking.

Bio- Medical Instrumentation

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

i. explain the basic components of medical instruments;
ii. illustrate the usage of popular diagnostic instruments;
iii. describe the principles of imaging diagnostic instruments; and
iv. elucidate the functions of popular therapeutic instruments.

HAM Radio & Practice

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

i. state the rules and regulations involved in HAM radio communication;
ii. explain the origin of electricity and magnetism;
iii. describe the elementary theory of alternating currents in capacitors and inductors;
iv. theoretically design a basic radio receiver and transmitter; and
v. explain radio propagation and safety measures.

Consumer Electronics

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

i. learn the basic components used in day today electronics;
ii. explain the basic measuring devices;
iii. troubleshoot and learn the maintenance of electronic gadgets;
iv. describe the operation of house hold appliances; and
v. explain the theory and applications of various audio communication systems.

Department of Psychology

Course Outcomes – B. Sc Psychology

General Psychology I

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

i. Describe the Basic concepts in Psychology.

ii. Associate relationship between attention and perception
iii. Use learning theories for day today life
iv. Distinguish and relate different types of memory
v. Infer the concept on thinking and language.

Developmental Psychology I

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

i. Recognize Basic concepts of human Growth and Development.
ii. Infer and assimilate the physical and cognitive development of infancy and toddlerhood
iii. Associate Language and Personality Development of infancy and toddlerhood
iv. Understand and Relate physical and cognitive development of early childhood for better childhood.
v. Demonstrate the theoretical perspectives of development for a healthy Middle Childhood

Biological Psychology

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

i. State the meaning of Biological Psychology and Recall historical views of human behaviour.
ii. Sketch and Describe the structure and functions of neuron
iii. Explain the functions of neurotransmitters
iv. Distinguish theories of hormones in determining human behaviours.
v. Compare the biology of emotional behaviour of normal and impaired brain.

Introduction to Sociology

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

i. Identify the characteristic of society and its intuitional relevance.
ii. Classify the types of social process for societal development.
iii. Compare and contrast the types of social institution for socialization process.
iv. Identify the consequences of social stratification in the Indian society through caste, class, race etc.
v. Demonstrate the models of social control and analyse the factors for social change

Psychology in Daily Life

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

i. Identify the Importance of Psychology in Daily Practice.
ii. Distinguish the stages of human development
iii. Relate personality and learning in daily life.
iv. Apply behaviour medication techniques.
v. Interpret the application of psychology in various fields.

Life Skill Education

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

i. State the importance of understanding self.
ii. Discuss ways to nurturing relationship
iii. Practice creative and critical thinking
iv. Understand the emotions; identify the stressor and coping mechanism.
v. Develop potentials to solve problems of daily life through effective decisions.

General Psychology II

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

i. Assess intelligence through the suitable intelligence test
ii. Prepare and practice motivation strategies for self and others.
iii. Subdivide appropriate emotions and understand its components
iv. Understand various types of personality and its assessment.
v. Interpret consciousness and sleep

Developmental Psychology II

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

i. Point out the physical changes during adolescence
ii. Recognize the gender identity and relationship with others
iii. Explain the areas of marital adjustment in young adulthood
iv. Evaluate physical health and work in middle age
v. Compare and contrast psychosocial development of Late adulthood.

Statistics for Psychology

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

i. Recall the need and importance of statistics in Psychology (K)
ii. Sketch the different types of graphs used in statistics
iii. Compute mean, median and mode
iv. Calculate measures of variability for any given data
v. Differentiate spearman and Pearson correlation and its use in Psychology field

Educational Psychology

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

i. Define psychological elements in learning process and different views about learning.
ii. Express the various aspects related to the cognitive development.
iii. Analyse the importance of development in education
iv. Appraise the theoretical and practical know-how of how to work as an educational psychologist.
v. Compare different types of teaching methods

Counselling and Guidance

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

i. Understand the concept of Counselling, guidance and advice.
ii. Explain Counselling approaches and practices
iii. Employ Group counselling techniques in appropriate place.
iv. Recommend the counselling settings for individual and groups
v. Assist individuals towards self-discovery using counselling tools and techniques.

IT Skills for Psychologists

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

i. Describe computer architecture and languages
ii. Identify the steps involved in operating window system.
iii. Operate editing, formatting and mail merge in MS-Word
iv. Work the data base using MS-Excel
v. Prepare Power point slides for professional presentations.

Social Psychology – I

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

i. Relate the significance of social psychology in the social life.
ii. Recognize self and others in social context
iii. Predict the possible social cognition in different social settings
iv. Relate social influence on development of different norms
v. Apply Prosocial behaviour in an appropriate social setting

Experimental Psychology – I

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

i. Conduct experiments and administer psychological experiment to a subject
ii. Write a report which reflects the details of the experiment/ test, the aim, applications procedure of administration and subject results
iii. Compare the individual and group data collected in the experiment
iv. Make interpretations and compare conclusions based on the norms given in the manual
v. Write all the experiment in the APA format.

Rehabilitation Psychology

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

i. Distinguish the types of disabilities
ii. Explain disabilities as per Person with disabilities act
iii. Describe Autism causes, symptoms and intervention strategies
iv. Elucidate personality development of persons with disabilities
v. Analyse the different legislation provision available to PWD

Abnormal Psychology – I

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

i. Recognize the abnormal behaviour in different tradition
ii. Explain the different anxiety disorder with suitable example
iii. Compare and Contrast the Neurocognitive disorder
iv. Assess the causes and symptoms of somatoform disorders
v. Distinguishes the various eating and sleeping disorder

Geriatric Psychology

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

i. Recall the concept of aging and theories of aging
ii. Generalize the attitude formation among the aging people in society
iii. Interpret the causes of memory loss among old age people
iv. Compare the common health issues of old age people
v. Analyse the role of community on elderly care and support

Social Psychology - II

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

i. Identify different types of behaviour in groups and dynamics
ii. Distinguish different types of love and relationship in social setting
iii. Describe the formation of an attitude in an individual
iv. Analyse the prejudice and stereotyping in society
v. Assess and criticize the root cause of aggressive behaviour among the individuals

Research Methods in Psychology

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

i. State the meaning of research and different types of research.
ii. Identify random and non-random sampling techniques with suitable example
iii. Employ suitable hypothesis for their future research works
iv. Distinguish different methods of data collection procedure in Psychology.
v. Follow suitable writing style in different research reports.

Abnormal Psychology - II

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

i. Distinguish the characteristics of various clusters of personality disorder
ii. Identify the diagnostic criteria for schizophrenia
iii. Relate the depression related disorder
iv. Differentiate various substance related disorder
v. Develop treatment plan and the suicide prevention strategies

Experimental Psychology – II

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

i. Conduct experiments and administer psychological experiment to a subject
ii. Write a report which reflects the details of the experiment/ test, the aim, applications procedure of administration and subject results
iii. Compare the individual and group data collected in the experiment
iv. Make interpretations and compare conclusions based on the norms given in the manual
v. Write all the experiment in the APA format.

Industrial Psychology

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

i. Identify the appropriate theories on work and motivation
ii. Estimate the impact of decision making on individual and group relationship
iii. Prepare different leadership traits based on the industry demand
iv. Solve problems in employee selection and employee management
v. Develop the personality suitable for the different work environment

Cognitive Psychology

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

i. Describe the concept of cognition and cognitive psychology
ii. Demonstrate the importance of attention and thinking
iii. Analyse the salient features of sensation and perception
iv. Describe ways to develop resilience and mental wellbeing
v. Illustrate the importance of mental imagery.

Cognitive Psychology

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

i. Describe the concept of cognition and cognitive psychology
ii. Demonstrate the importance of attention and thinking
iii. Analyse the salient features of sensation and perception
iv. Describe ways to develop resilience and mental wellbeing
v. Illustrate the importance of mental imagery.

Health Psychology

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

i. Recognize the importance of mind and body connection
ii. Discuss the importance of stress coping strategies
iii. Analyse the psychological aspects of terminal and chronic illness
iv. Demonstrate primary and secondary prevention practices
v. Create an awareness about the importance of health

Principles of Counselling

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

i. Understand the concept of counselling, guidance and psychotherapy
ii. Describe various areas of counselling
iii. Demonstrate the importance of counselling relationship in and out of counselling setting
iv. Employ appropriate psychotherapeutic technique
v. Prepare an appropriate format for case study report

Disaster Management

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

i. Recognize the effects of disaster and its nature
ii. Compare and contrast the different types of disasters
iii. Demonstrate the plan for disaster preparedness
iv. Criticize the issues in disaster mitigation
v. Recommend the suitable of rehabilitation measures for the victims

Cyber Psychology

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

i. Understand the basic concepts of cyber Psychology.
ii. Utilize the cyber space effectively
iii. Interpret research methods in cyber studies.
iv. Infer and distinguish cyber relationships
v. Analyse and describe the problems in cyber space

Positive Psychology

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

i. State the importance of positive psychology in life
ii. Describe the strategies to foster resilience
iii. Practice Prosocial behaviour in daily life
iv. Support the positive parenting and its impact on child
v. Analyses the importance of self-esteem and self-regulation

Organizational Behaviour

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

i. Understand and Demonstrate the appropriate organizational behaviour
ii. Apply different models on interpersonal behaviour
iii. Demonstrate the effective organizational culture and its factors
iv. Enumerate different employee engagement activities
v. Develop training strategies for employee preparation and engagement

Research Project

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

i. Identifies the good research problem
ii. Outline a good research proposal for the research work
iii. Understand the different types of research in Psychology
iv. Analyses the collected data from the sample
v. Prepares a good research report

Sports Psychology

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

i. Identify the importance of sports psychology
ii. Relate the motivation needs among the sports persons
iii. Explain the importance of competition and cooperation in sports
iv. Support the personality development of sports person.
v. Develop the relationship between good health and sports

Consumer Psychology

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

i. Describe the basic concepts of consumer Psychology and consumer behaviour.
ii. Understand the consumer motivation, personality and its relevance in consumer psychology.
iii. Interpret the consumer perception on buying.
iv. Infer and distinguish consumer attitudes and beliefs.
v. Evaluate and create awareness on consumer decision making and its process.

Department of Visual Communications

Course Outcomes – B. Sc Visual Communications

Introduction to Visual Communication

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

i. Recognize the basic concepts of communication and visual communication
ii. Explain visual culture, power and pleasure
iii. Use body language in communication
iv. Differentiate the aspects of communication and visual communication
v. Evaluate the models of communication

Visual Literacy

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

i. Recognize the current concepts of visual literacy
ii. Describe colour theory and its application

iii. Utilize different drawing medium
iv. Analyse the role of light and shade
v. Evaluate the rules of composition and design the drawing of human anatomy

Drawing

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

i. Recognize the practical concepts of drawing
ii. Classify visual perspectives
iii. Utilize basic colours in drawing
iv. Compare the effects of acrylic and water colours in drawing
v. Evaluate the ancient drawing patterns and design new drawing patterns

Advertising and Public Relations

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

i. Recognize the basic concepts of advertisement and public relations
ii. Describe the structure and function of ad agency
iii. Execute product promotional activities through media
iv. Compare the flexibility of media in different fields
v. Plan PR campaign

New Media

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

i. Recognize the fundamental concepts of new media
ii. Explain socialization and impacts of social media
iii. Apply social media for social networking, education and entertainment
iv. Compare and evaluate traditional and online readings
v. Plan for E publishing

Font Making and Crafting

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

i. Recognize the functional concepts of font making and crafting
ii. Classify the different types of fonts
iii. Use dot, line, shape, forms and colour to make fonts
iv. Analyse the stencil cutting process
v. Evaluate the process the font formation and create new fonts

Fundamentals of Photography

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

i. Recognize the contemporary concepts of photography

ii. Explain the basics, working and usage of camera
iii. Classify the different types of lenses and filters
iv. Compare the effects of shutter speed, aperture, ISO and depth of focus in photographs
v. Evaluate and develop digital photographs

Graphic Design - I (Theory)

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

i. Recognize the current concepts of graphic design
ii. Describe images and their resolution
iii. Apply colour modes in designing
iv. Compare and evaluate layout designs of different media
v. Develop layouts of media

Graphic Design - II (Practical)

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

i. Recognize the applied concepts of graphic design
ii. Classify the effects of colors in logo, visiting cards, layout of magazine and layout of advertisements
iii. Apply colours in different background designs
iv. Compare and evaluate different layouts and designs
v. Design web page and app

Media Management

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

i. Recognize the current concepts of media management
ii. Explain advertising and advertising management
iii. Compare the production units of electronic media
iv. Judge the sales and marketing flexibility of different media
v. Plan the procedures for sales through new media

Media Education

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

i. Recognize the basic concepts of media education
ii. Explain the responsibility of mass media
iii. Utilize mass media for education
iv. Compare traditional and computer literacy
v. Evaluate the impact of media in the life style of youth and emotional intelligence of women

Digital Photography

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

i. Recognize the applied concepts of photography
ii. Explain the basics, working and usage of digital camera
iii. Apply the effects of lightings and filters
iv. Compare the effects in photographs with variation in shutter speed, aperture, ISO and depth of focus
v. Evaluate and develop digital photographs by using software

Film Studies

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

i. Recognize applied concepts of film studies
ii. Describe impacts of cultural movement in cinema
iii. Compare narrative structure of Tamil and World cinemas
iv. Evaluate trends of Tamil and World cinemas
v. Perform film appreciation, criticism and analysis of Tamil cinema

Theatre & Cinema

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

i. Recognize current concepts of theatre and cinema
ii. Explain diverse aspects of theatre and theatre script
iii. Analyse trends of development of theatre and cinema
iv. Evaluate act and theatre script
v. Plan set, costume, lighting and stage for different plays

Sound and Image

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

i. Recognize the basic concepts of sound and image
ii. Explain musical styles and genres
iii. Apply recording, editing, mixing and mastering procedure
iv. Compare and evaluate Indian, western and classical musical style
v. Develop sound designs for visual genre

Practical Photography

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

i. Recognize the applied concepts of photography
ii. Explain the basics, working and usage of camera
iii. Use different lens, lightings and filters

iv. Compare and evaluate effects on photographs with different shutter speed, aperture, ISO and depth of focus
v. Develop photographs by using software

Screen Writing

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

i. Recognize the applied concepts of script writing
ii. Explain different script formats
iii. Apply different elements to write scripts
iv. Compare and evaluate scripts of different media
v. Create new scripts for different media

Audio Production

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

i. Recognize the current concepts of audio production
ii. Explain music theory and MIDI
iii. Implement VST to give audio effects to digital audio
iv. Compare compressed audio and uncompressed audio
v. Evaluate and plan for audio recordings

Theories of Communication

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

i. Recognize the basic concepts of development communication and theories of Communication
ii. Describe the theories of media and society
iii. Employ folk forms and modern media for rural development
iv. Compare different aspects of communication and development communication and Evaluate theories of media and society
v. Prepare media like poster, handbill, PSA and brouchers to create awareness

Fiction and Film

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

i. Recognize basic concepts of fiction and film
ii. Explain narrative structure of fiction and film
iii. Apply elements for writing scripts
iv. Compare narrative structure of play, novel and short story
v. Critique by watching the short films of Balu Mahendra

Video Editing

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

i. Recognize practical concepts of video editing
ii. Explain video editing techniques
iii. Apply software for titling, dubbing and recording
iv. Compare and evaluate online editing and offline editing
v. Develop short film and documentary

Cinematography

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

i. Recognize practical concepts of cinematography
ii. Explain production processes in cinematography
iii. Employ composition rules and color balance in production process
iv. Compare the effects of lighting, camera angles and camera movements
v. Evaluate the course of action in cinematography

Television Production

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

i. Recognize basic concepts of television production
ii. Explain description of script for different television programs
iii. Utilize the devices for television program production
iv. Compare on screen sound and off screen sound
v. Evaluate online editing and offline editing

Visual Analysis

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

i. Recognize basic concepts of visual analysis
ii. Explain analytical techniques used in media
iii. Apply social media for sociological and feminist analyses
iv. Make comparison among different analytical techniques
v. Evaluate the impacts of social media

2D Animation

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

i. Recognize practical concepts of 2D Animation
ii. Explain tools, techniques and types of animation
iii. Employ software Adobe Flash for frame by frame animation

iv. Apply and evaluate with web color and web pages for web banner creation
v. Develop icons and app

Media Production

At the end of the course the students will be able

i. Recognize practical concepts of media production
ii. Explain applications of photography and cinematography
iii. Use camera to take photos in different fields
iv. Compare and check different formats of editing
v. Plan for radio program, ad film and documentary

Practical Theatre

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

i. Recognize basic concepts of practical theatre
ii. Explain importance of games and exercises
iii. Apply body, mind and voice coordination for physical and mental improvements
iv. Analyse various theatre forms and check the plays by working with the scripts
v. Plan to create script for folktales and short stories

Environmental Studies

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

i. Recognize the basic concepts of environment
ii. Explain the sustainable development
iii. Use media for environmental awareness
iv. Analyse the effects of environmental pollution
v. Develop script for environmental documentary and feature film

Media Laws & Ethics

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

i. Recognize the basic concepts of laws and ethics of media
ii. Explain the fundamental rights and important acts
iii. Use the code of ethics of different media
iv. Analyse the ethics in advertising and ethics of public relations
v. Evaluate the ethical codes of new media and plan for their implementation

3D Animation

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

i. Recognize the basic concepts of 3D Animation

ii. Explain the effects of lights and shadows
iii. Use the software Maya for modelling
iv. Apply and evaluate 2D animation and 3D animation
v. Design digitally animated images

Internship

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

i. Recognize the basic concepts of internship
ii. Explain the importance of internship
iii. Implement skills in different platform
iv. Analyze the gap between laboratory and land
v. Evaluate a course of action in media and apply creativity

Short film making

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

i. Recognize the applied concepts of short film making
ii. Explain the techniques used in short film making
iii. Use the video camera to shoot and editing techniques to edit short films
iv. Analyse and evaluate the scripts and editing techniques
v. Plan to create script for short film and take short film

Art from Anything

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

i. Recognize the basic applied concepts of art from anything
ii. Explain the methods of art making
iii. Use papers, dry flowers, dry leaves and available materials to make the art
iv. Analyse and evaluate process stages in making art from anything
v. Design wall hangings, miniature and sculpture carvings and rubber castings

Department of Zoology

Course Outcomes – B. Sc Zoology

Invertebrata

Upon completion of this course, students will be able to:

i. Outline the rules of taxonomy and the principles of animal classification.
ii. Identify the general characteristics of Porifera and Coelenterata.
iii. Explain body organizations and unique characters of Helminthes and Annelida.
iv. Evaluate general characters of Arthropoda and Mollusca.
v. Discuss the importance of Minor phyla and Echinodermata.

Invertebrata Laboratory

Upon completion of this course, students will be able to:

i. Identify and classify Protozoa, Porifera and Coelenterata.
ii. Create awareness about conservation of coral reefs and the prevention of helminthic diseases.
iii. Assess the importance of Minor phyla, Arthropoda and Mollusca.
iv. Explain the evolutionary significance of Echinoderms.
v. Plan to visit different habitats and document animal diversity.

Cell Biology

Upon completion of this course, students will be able to:

i. Use microscopy to visualize cells and micrometry to fractionate cellular components.
ii. Outline cellular and membrane structures in prokaryotes and eukaryotes.
iii. Discuss the structure and functions of ER, Golgi complex, Lysosomes and Ribosomes.
iv. Evaluate the structure and functions of Mitochondria and Nucleus.
v. Compile various phases of cell cycle, cell division and abnormalities of cancer cells

Chordata

Upon completion of this course, students will be able to:

i. Outline and classify prochordates and chordates.
ii. Explain the characteristics of Agnatha and Pisces.
iii. Assess the adaptations and evolutionary importance of Amphibia and Reptilia.
iv. Outline and classify Aves and Mammalia with examples.
v. Compare the various systems of Chordates.

Chordata Laboratory

Upon completion of this course, students will be able to:

i. Identify and classify the members of Prochordata.
ii. Compare and classify Agnatha and Pisces.
iii. Analyze the relationship between Amphibia and Reptilia.
iv. Compare the characteristics of Aves and Mammalia.
v. Explain the architecture of skull, girdles and vertebrae in Chordates and undertake field survey.

Economic Zoology

Upon completion of this course, students will be able to:

i. Explain the aquacultural practices.
ii. Outline shrimp culture methods and hatchery management.

iii. Apply the knowledge of dairy and pig farming.
iv. Analyse the methods of poultry farming, diseases and control measures.
v. Assess the methods and uses of vermicomposting.

Human Biology

Upon completion of this course, students will be able to:

i. Explain the structure and functions of skin, skeleton and muscles.
ii. Evaluate the nutritive value of food and the physiology of digestion.
iii. Discuss the structure and function of heart, lungs, brain, kidney, sense organs and endocrine glands.
iv. Compare the male and female reproductive organs and the role of sex hormones.
v. Outline the disorders of skin, stomach, heart, lungs and kidney.

Forensic Biology

Upon completion of this course, students will be able to:

i. Analyse the evidences for crime investigation.
ii. Assess the offences based on firearms, tool marks and impressions.
iii. Explain the common biological techniques adopted in crime investigations and predict the sexual and non-sexual offences.
iv. Identify the insects of forensic importance and explain the methods employed in forensic entomology.
v. Outline the classification and sources of drugs and poisons and to discuss the ill effects and withdrawal symptoms

Apiculture

Upon completion of this course, students will be able to:

i. Compare past and present status of apiculture in India.
ii. Explain the biology of honey bees and their communication.
iii. Discuss the rearing management of different bees and honey extraction.
iv. Identify the different diseases of honey bees and control measures.
v. Evaluate the prospects of apiculture and entrepreneurship.

Poultry Farming

Upon completion of this course, students will be able to:

i. Outline the growth of poultry industry in India and explain the biology of fowl with its economic importance.
ii. Identify Indian and exotic breeds.
iii. Explain various types of housing and poultry farm equipment's.
iv. Assess energy requirements, feed formulations and management.

v. Evaluate various poultry diseases.

Ornamental Fish Culture

Upon completion of this course, students will be able to:

i. Design the types of fresh water aquaria.
ii. Identify the popular ornamental fishes.
iii. Formulate breeding and hatchery techniques.
iv. Design marine Invertebrate aquaria.
v. Identify the common diseases and control measures in aquarium fishes.

Microbiology

Upon completion of this course, students will be able to:

i. Explain the characteristic features of microbes and microbial evolution.
ii. Discuss the nomenclature, structure and classification of bacteria, virus, algae, fungi and protozoa.
iii. Evaluate food spoilage, food borne diseases and industrially important microbes.
iv. Identify the role of microbes in environment and agriculture.
v. Assess the important diseases caused by bacteria, viruses, fungi and protozoa and their control.

Animal Physiology

Upon completion of this course, students will be able to:

i. Discuss the mechanism of digestion and excretion in various animals.
ii. Compare different types of respiration in various animals.
iii. Analyse the adaptations of animals with respect to heat and osmotic changes.
iv. Explain the physiology of nerve conduction, muscle contraction and sensory organs.
v. Compile the regulatory actions of different endocrine glands and their hormones.

Genetics

Upon completion of this course, students will be able to:

i. Analyse the patterns of Mendelian and non-Mendelian inheritance.
ii. Explain linkage and crossing over.
iii. Predict the genetic basis of behaviour.
iv. Explain the mechanisms of genetic recombination in bacteria and viruses.
v. Assess the concepts of human genetics, compute gene and genotypic frequencies.

Evolution

Upon completion of this course, students will be able to:

i. Explain the origin of life and evidences for evolution

ii. Analyse the various theories of evolution
iii. Discuss the concepts of evolutionary trends
iv. Analyse the isolating mechanisms and adaptations
v. Evaluate the evolution of horse and human

General Zoology-I

Upon completion of this course, students will be able to:

i. Identify the invertebrates and classify aceolomates .
ii. Explain and classify pseudocoelomates.
iii. Discuss the economic importance and evolutionary significance of Phylum Arthropoda, Mollusca and Echinodermata.
iv. Identify Prochordates, Pisces and Amphibians.
v. Compare poisonous and non-poisonous snakes and explain the adaptive features in Aves and Mammalia.

Biological Chemistry

Upon completion of this course, students will be able to:

i. Assess the structure and metabolism of carbohydrates.
ii. Analyse the various metabolic pathways and their significance.
iii. Assess the chemistry and metabolism of lipids.
iv. Explain the metabolism of nucleic acid and convergence of metabolic pathways.
v. Discuss the mechanism of enzyme action and the regulation of enzyme activity.

Ecobiology

Upon completion of this course, students will be able to:

i. Analyse the importance of abiotic factors and their ecological effects.
ii. Outline biotic community and ecosystem dynamics.
iii. Assess the characteristics of animal populations.
iv. Evaluate environmental conditions and faunal adaptations in different habitat.
v. Compare Zoogeographic realms of world with emphasis on oriental region.

Molecular Biology

Upon completion of this course, students will be able to:

i. Explain the structure and properties of nucleic acids and outline genomics, proteomics and metabolomics.
ii. Discuss the mechanisms involved in DNA replication, repair, damage and types of transposable elements.
iii. Compare the steps involved in transcription in prokaryotes and eukaryotes.
iv. Analyse genetic code and steps involved in protein synthesis.

v. Evaluate the mechanism of gene regulation in prokaryotes and eukaryotes.

Molecular Biology Laboratory

Upon completion of this course, students will be able to:

i. Prepare various reagents and buffers.
ii. Demonstrate isolation of DNA from various sources.
iii. Demonstrate isolation of RNA from various sources.
iv. Utilize the isolated DNA & RNA for quantification.
v. Assess the molecular weight of nucleic acid by Agarose gel electrophoresis.

General Zoology – II

Upon completion of this course, students will be able to:

i. Discuss the concepts of human genetics and human genome project.
ii. Explain aspects related to human health and diseases.
iii. Identify beneficial and harmful insects.
iv. Compare immune responses, antigen-antibody interactions and autoimmune disorders.
v. Utilize the knowledge gained in poultry farming, apiculture, aquaculture and vermicomposting to become an entrepreneur.

Immunology

Upon completion of this course, students will be able to:

i. Analyse cells and lymphoid organs of the immune system.
ii. Discuss antigens, antibody and their interactions.
iii. Explain antibody diversity and humoral responses.
iv. Evaluate structure and functions of MHC and cell mediated immunity.
v. Compare regulation of immune response, complement and disorders of immune system.

Entomology

Upon completion of this course, students will be able to:

i. Outline the classification of insects up to order level.
ii. Compare the anatomy of insects of different groups.
iii. Discuss the physiology of insects and metamorphosis.
iv. Identify pests of various crops and assess the damage and control.
v. Assess the insects of economic, medical and forensic importance.

rDNA Technology

Upon completion of this course, students will be able to:

i. Analyse various techniques used in DNA extraction and the methods involved in DNA manipulation.

ii. Compare the conventional and modern methods of rDNA transfer into living cells.
iii. Design experiments involving gene cloning using vectors and compare the different vectors for bacteria, plants and animals.
iv. Evaluate different methods of gene analysis.
v. Apply gene cloning methods in recombinant vaccine and insulin production and stem cell therapy.

Developmental Biology

Upon completion of this course, students will be able to:

i. Discuss the structures and functions of gonads, gametes, processes in fertilization & parthenogenesis.
ii. Outline the processes of cleavage, gastrulation and organogenesis.
iii. Analyse types, structure & functions of placenta, mechanism of regeneration and metamorphosis.
iv. Explain embryonic induction, organizers, differentiation and interactions of nucleus and cytoplasm.
v. Apply the knowledge of embryonic stem cells and embryo transplantation.

Environmental Studies

Upon completion of this course, students will be able to:

i. Identify renewable and non renewable resources and their proper usage and conservation.
ii. Explain the concept of ecosystem.
iii. Evaluate the human impact on environment and the measures to mitigate.
iv. Utilize ecotechnology to resolve environmental issues.
v. Analyse the consequences of environmental disasters and remedy

Medical Laboratory Technology

Upon completion of this course, students will be able to:

i. Identify human body conditions, medical instruments and their applications.
ii. Evaluate kidney disorders and analyse clinical samples.
iii. Assess the cell count, ESR, blood group, GTT and diabetic disorders.
iv. Identify the histopathological disorders.
v. Outline the procedures involved in fertility tests.

Ornithology

Upon completion of this course, students will be able to:

i. Explain morphology, adaptations and economic importance of birds.
ii. Assess the importance and role of field ornithology techniques.
iii. Analyse field data applying statistics and pterological studies.

iv. Outline the various avian species in India, biodiversity hotspots and evaluate case studies.
v. Discuss the role of legislation, NGOs and sanctuaries in bird conservation.

Biotechnology

Upon completion of this course, students will be able to:

i. Apply various aspects of animal biotechnology including media preparations and cell culture.
ii. Assess the history, scope and basics of plant biotechnology and transgenic plants.
iii. Explain the history, scope and basics of microbial biotechnology including various methods employed.
iv. Analyse the various aspects of environmental biotechnology including bioremediation, biosensor and biomarkers.
v. Evaluate the biosafety, bioethics and intellectual property rights.

Biodiversity

Upon completion of this course, students will be able to:

i. Revise the concepts of biodiversity and its measurement.
ii. Explain the values and significance of biodiversity.
iii. Discuss threats to biodiversity and wild life conservation.
iv. Assess the role of various institutions and agencies in biodiversity conservation.
v. Analyse the role of NGOs and various environmental movements in biodiversity conservation.

Bioinformatics

Upon completion of this course, students will be able to:

i. Discuss the basic concepts of computer, hardware and software.
ii. Outline WWW, HTML, URL, browsers, search engines, bibliographic databases and retrieval.
iii. Use various bioinformatics tools to analyse molecular biological data.
iv. Explain the types of data and biological databases.
v. Outline various algorithms for sequence alignments and presenting large biological data

Project

Upon completion of this course, students will be able to:

i. Identify appropriate research methodology
ii. Formulate hypothesis, design and conduct experiments
iii. Analyse data and interpret the results
iv. Compile research findings in written and verbal forms
v. Create applications using research findings to advance education theory and practice

Human Reproduction and Conception Control

Upon completion of this course, students will be able to:

i. Outline the anatomy of male and female reproductive organs.
ii. Explain the physiology of reproduction.
iii. Analyse the types of love, sexual behaviour patterns, conception, pregnancy, fetal development and parturition.
iv. Utilize the methods of contraception and birth control.
v. Assess the causes of sexually transmitted diseases, common sexual disorders and their prevention.

Department of Physical Education

Course Outcomes – B. Sc Physical Education

Foundation of Physical Education and Sports

On completion of the course, students will be able to:

i. Understand the wholesome development of the human being through various theories of physical Education
ii. Articulate the scientific relationship of physical Education with other related science
iii. Critically analyse the values of related national programmes with sports bodies.
iv. Estimate Impact of Olympic movement and international understanding through physical Education and sports
v. Design the physical education programme in comparison with NCC and NSS.

Practical I - Track and Field Marking

On completion of the course, students will be able to:

i. Classify and compare the planning and construction of standard track marking.
ii. Apply Stagger distance marking for half and full stagger for the convenience of conducting track and field events
iii. Plan to construction the long jump and triple jump pits.
iv. Recommend to prepare and construct shot put sector.
v. Validate the discus and hammer throw circle and sector with cage preparations.

Track and Field Events I

On completion of the course, students will be able to:

i. Distinguish the styles or techniques for better performance, importance of block fixing for sprint events well knows
ii. Administer exercise for take-off, clearance, flying phase and practice running tactics.

iii. Establish standard techniques for practice relay races to focus on winning competitions.
iv. Distinguish the different types of baton exchange in connection with modern styles. Find errors in teaching and performing in competitions.
v. Prepare race walking style and to produce higher results in competitions.

Practical - II - Track and Field Events – I

On completion of the course, students will be able to:

i. Discover the warm up and conditioning procedures understood and ready to prescribe exercises.
ii. Group employ the sprinting technique for the competition status and judge the effect of it.
iii. Analyse the importance of techniques and corrections in coaching.
iv. The scientific principle in throw techniques was intensely rated.
v. Prepare athletic training and reorganize the schedule.

Game of Specialisation I

On completion of the course, students will be able to:

i. Focus the unique history of each game namely Football, Hockey, Badminton and Tennis.
ii. Establish the rules and interpretation of the game and officiating to become a professional
iii. Focus to practice the fundamental skills and its techniques in Football, Hockey in order to win the match
iv. Evaluate the of rules while learning the fundamentals in Badminton.
v. Manage the minute aspects of the basic skill for better execution of the game Tennis modify the playing schedule.

Practical III - First Aid, Human Physiology

On completion of the course, students will be able to:

i. Observed evaluate the injuries in sports for the purpose of first Aid.
ii. Practiced the first aid procedure for Snake bite, Dog bite, Burns and Poison.
iii. Record treatment procedure for fracture and usages of Bandages for better survey
iv. Analyse the Physiological outcome of reaction time and movement time and Co - ordination.
v. Test the body fat, obesity, heart rate and Pulse rate, vital capacity and blood pressure to solve the health problem.

Human Anatomy & Physiology

On completion of the course, students will be able to:

i. Understand the scientific bases of Human physique through cell, Bone and joints to observe the difference.
ii. Draw the nomenclature of the cardiovascular system and its functional capacities and

drawbacks with a diagram.

iii. Identify various types of muscles and its purposes-based on Anatomy and Physiology.
iv. Evaluate the importance of nervous system and Endocrine system.
v. Express the position of axial and appendicular skeleton and structure and function of kidney and skin.

Practical IV - Game of Specialisation I

On completion of the course, students will be able to:

i. Cite advantages of rules and regulation of the game Football or Hockey orBadminton.
ii. Chart down fundamental skill of the major games.
iii. Classify the skill and techniques of the games.
iv. Compare the skills and techniques involved in the game situation whole play competitions.
v. Formulate the methods to and practice the skill and techniques for applying tactics and strategies integrated in the play.

Health Education and Safety Education & First Aid

On completion of the course, students will be able to:

i. Illustrate the Perception of Health Education, and its hazards. To interpret the individual, family, community and national health.
ii. Understand the importance of Hygiene in food and environment and estimate food poisoning and allergies.
iii. Survey the health conditions in rural, metropolitan and urban areas and sketch the role of WHO.
iv. Recommend the first aid procedure involved and order the advantages in first aid.
v. Role of safety education and its Principles and Procedures for life situation and validate it.

Track and Field Events - II

On completion of the course, students will be able to:

i. Show the equipment in practice and associate various steps for adaptation.
ii. Determine the skill of skimming in hurdles and employ hurdle clearance.
iii. Focus the pole-vault rules along with skills namely grip, carry and run, take off etc and uses of devices.
iv. Rate the skills in Javelin Throw and Hammer in order to improve.
v. Prepare the duties of various committees and their role in officiating or conducting the event.

Theories of Yoga

On completion of the course, students will be able to:

i. Discover the Principles and Procedure of Yoga practices and various types of Yoga.
ii. Choose the methods of asana practice with purpose.
iii. Experiment the yogic techniques, the methods and benefits.
iv. Recommend pranayama practice with various classifications for respiratory enhancement well understood.
v. Justify the and practice of Kriya, Neti, Dhauthi, Trataka to understand the procedures and benefit.

Practical V - Track and Field II

On completion of the course, students will be able to:

i. Illustrate relays; Triple Jump, High Jump and Long-Distance running interpret the rules.
ii. Employ the step by step procedures for improving the ability in relays with various exchanges.
iii. Precisely correlate Triple Jump approach, take off, flight and landing.
iv. Compare the styles and techniques in High Jump.
v. Compose the running style through hard practice and tactical training

Practical VI - Yoga

On completion of the course, students will be able to:

i. Compare various yoga postures distinguish Physical and Physiological gains.
ii. Examine sitting, standing and lying postures with Physical and Mental improvement.
iii. Focus Bandhas and Kriyas all cleaning procedure.
iv. Justify Pranayama practice helps to achieve respiratory capacity improvements.
v. Propose the pranayama procedures to most of the ailments were cured and respiratory process enhanced

Methods in Physical Education

On completion of the course, students will be able to:

i. Measure class management and presentation techniques application of teaching aid.
ii. Generalize all physical activities for professional enhancement they will becomes leader of field.
iii. Evaluate various types of tournament to focus professionalism.
iv. Criticize benefit and drawbacks of intramural and extramural
v. Prepare standard and non-standard sports meet in colleges.

Physical Fitness, and Wellness

On completion of the course, students will be able to:

i. Associate fitness and wellness lead a healthy life and lead others to understand the importance of the health.
ii. Examine the modern life stress and compare the participation in physical activity.
iii. Focus on types of fitness namely chronological, physiological, functional and mental unknown to many in the society.
iv. Appraise Social benefits due to sports participation, led them self motivated life in the society.
v. Role of spiritual fitness and wellness play a vital role in the society.

Game of Specialization – II

On completion of the course, students will be able to:

i. Laying the playfield and purchasing the equipment with specification were learned.
ii. Well equipped with rules and regulations and prepared to officiate tournaments.
iii. Totally learned about the game and its strategies capable to teach the game Basketball.
iv. Theoretically understand the various aspects of Kabaddi, defensive and offensive skills.
v. Volleyball basic and fundamental skills learned with through knowledge of the game

Practical VII - General Fitness

On completion of the course, students will be able to:

i. Interpret scientific warm-up procedure and warm- down method adopted in the practical field for self realization and observe.
ii. Construct muscle strengthening through weight training.
iii. Practice upper body exercises for body strengthening.
iv. Subdivide thigh and calf exercises properly administered in gymnasium environment.
v. Rearrange knee and ankle strengthening exercise mandatory in this era.

Practical VIII - Game of Specialization

On completion of the course, students will be able to:

i. Ask re to teach advanced skill in the game.
ii. Modify N.B.A style and skill teaching in basketball.
iii. Correlate Kabaddi as an indigenous activity professionally understood for future plan.
iv. Volleyball as a rural game in our region estimate.
v. Invent new procedure to develop the game basketball.

Test, measurements and evaluation in physical Education

On completion of the course, students will be able to:

i. Identify the values of test and measurement with application backup.

ii. Practice Criteria of test with the norms of validity, reliability and objectivity.
iii. Plan Physical fitness measurements for developing speed, endurance, strength and flexibility.
iv. Argue some of the standardized test was learned such as Kraus welder test, Cooper 12 minutes test which may enable them to administer test.
v. Adapt Russell Lange volleyball test and AAPHERD basketball test in view with officiating.

Theories of Sport Training

On completion of the course, students will be able to:

i. Identify the principles of sports training to generate training to generalize training schedule.
ii. Prepare the training load with the with application intensity.
iii. Criticize the means and methods of developing speed, strength and endurance.
iv. Grade the training types and procedures for better achievement in competitions
v. Types of training cycles and periodisation can be validated and speculated.

Practical IX - Test and Measurement

On completion of the course, students will be able to:

i. Discus the Anthropometric test involved in physical identification, human understanding and correlate physical with psychological traits.
ii. Modify these tests to improve your body development.
iii. AAHPER Football test conducted for evaluation of football skills.
iv. AAHPER Volleyball test measured in passing serving, setting& volleying to support the planning ability.
v. The player can use the tool to developed the knowledge and improve the body development justifies

Practical X - Sports Training

On completion of the course, students will be able to:

i. Discuss the training of motor qualities.
ii. Training is step by step methods, circuit training, Interval training, free session, of session training. Experiment the circuit training and interval training.
iii. Correlate body composition body strength and motor qualities.
iv. Sports performance is all about explosive movements, reaction, speed and agility, justify.
v. Sports training focuses on reaching maximum efficiency in motor abilities connected to a certain sports discipline, recommend.

Environmental Factors and Sports Performance

On completion of the course, students will be able to:

i. Discover the importance of temperature and exercise in Heat.
ii. Record importance of water in sports along with Dehydration and acclimatization.
iii. Explain exercise in cold climate and humid conditions through practice.
iv. Measure how hill training helps to understand Altitude practice and acclimatization.
v. Invert various terrain practices.

Psychology and Sociology of Physical Education & Sports

On completion of the course, students will be able to:

i. Psychological factors affect learning and performance was interpreted.
ii. Establish personality factors through psychological expression.
iii. Illustrate motivation factors through practice.
iv. Predict the influence of society in sports with the knowledge of culture.
v. Intervene the behaviour of the sports person also in the society and in the sports field.

Fundamentals of Kinesiology

On completion of the course, students will be able to:

i. Observe the basic human movements understood through history, aim and objective of kinesiology.
ii. Identify the classification of joint and its basic structure the movement batten to focus and various movements.
iii. Report the fundamental concepts involved in kinesiology.
iv. Illustrate the major muscles, the development of structure and quality.
v. Analyse the natural effects on movement of walking, running and throwing.

Practical XI - Track and Field III

On completion of the course, students will be able to:

i. Express learning specific conditioning exercise for the concerned events.
ii. Estimate the upper body action in the hurdle events.
iii. Judge all natural activities practiced in view with athletics styles.
iv. Find error in different styles in Javelin throw event, the Grip and action throw and hand power is very essential for competition base.
v. Prepare hammer throw the body rotation and swings stance, reverse they learned to increase the distance.

Practical VIII - Game of Specialization

On completion of the course, students will be able to:

i. Associate laying the playfield and purchasing the equipment with specification.

ii. Chart down the rules and regulations and prepare to officiate tournaments.
iii. Devise the strategies the game handball.
iv. Test the various aspects of kho-kho defensive and offensive skills.
v. Write the basic and fundamental skills learned through of the game.

Department of Business Administration

Course Outcomes – B B A

Principles of Management

On completion of the course, students should be able to

i. Understand the fundamental principles of management and to outline the contribution of eminent researchers towards management studies.
ii. Describe the purpose of effective planning, decision making, forecasting and to practice the process of Management of objectives.
iii. Illustrate the different organization structure, departmentation and to examine their functions as well.
iv. Demonstrate the recruitment process and selection procedure and to establish a strong foundation regarding leadership, motivation and Training
v. Examine work and control quality through various quality control techniques.

Financial Accounting – I

On completion of the course, students should be able to

i. Understand the nature of accounting
ii. Demonstrate the accounting concepts and conventions
iii. Extend the Golden rules of accounting and Inference the concept through journalizing the transactions
iv. Reinforce and distinguish the journal and ledger
v. Familiarize the cash book and trial balance

Corporate Communication

On completion of the course, students should be able to

i. Cite the meaning, role and functions of communications.
ii. Explain the various kinds of written communication.
iii. Write a business report and business proposals
iv. Demonstrate group discussion and able to conduct meetings and conferences.
v. Apply various skills in presentations and public speaking.

Personality Development

On completion of the course, students should be able to

i. Develop an understanding about the dimensions of personality and understand the factors influencing personality.

ii. Explain the knowledge of personal beliefs and values and to classify the types of values.
iii. Demonstrate the need for setting goals in life and dramatize the significance of leadership styles.
iv. Recognize the need for behavioural modification.
v. Classify the tasks of a team leader in team development and to differentiate between work group and work team.

Banking Law and Practice

On completion of the course, students should be able to

i. To compare the role of the customer and the banker.
ii. To classify the different types of banks.
iii. To acquaint oneself with the concept of passbook and deposits.
iv. To recall the different types of cheques and the precautions associated with handling cheques.
v. To discover the need and limitations of E-banking.

Advertising and Salesmanship

On completion of the course, students should be able to

i. Differentiate Advertising and Salesmanship.
ii. Identity the importance and advantages of Advertising.
iii. Classify the different types of Advertising and evaluate reasons for failure of
iv. Describe the qualities of Sales Personality and demonstrate the theories of Personal Selling.
v. Outline the structure of Sales Organisation.

Financial Accounting - II

On completion of the course, students should be able to

i. To Assess the final accounts
ii. Compute the different methods of Depreciation
iii. Gain the knowledge of consignment and Joint venture
iv. Identify the error in single entry and rectification
v. Demonstrate the uses of self-balancing and sectional balancing system

Business Environment

On completion of the course, students should be able to

i. Recognize competitive structure of Industries.
ii. Demonstrate the aspects of Political, Legal and Technological Environment.
iii. Match Business, Culture and Organizational Behaviour.
iv. Develop the knowledge of Consumerism in India.
v. Discover the attributes of current Globalisation.

Marketing Management

On completion of the course, students should be able to

i. Differentiate market, marketing and selling
ii. Describe the nature of product and key concepts in product development.
iii. Analyse the relevance of Pricing and Factors influencing it.
iv. Demonstrate the ability of Brand to justify marketing strategies of a firm.
v. Identify the recent trends in marketing.

Entrepreneurial Skills

On completion of the course, students should be able to

i. Differentiate entrepreneur and manager also to understand the problems of women entrepreneur.
ii. Analyse the concept of entrepreneurship and role of entrepreneurship in economic development.
iii. Identify the business idea and motivate.
iv. Establish a small enterprise by identifying and formulating projects.
v. Establish the feasibility of a project and to prepare a project report and also to identify the problems and legal considerations in project implementation.

Foundations of Management

On completion of the course, students should be able to

i. To identify the origin of management.
ii. To outline the need for planning and organizing in an organization.
iii. To estimate the staffing needs of organization.
iv. To illustrate the role played by motivation and leadership.
v. To assess the importance for controlling and coordination in organizations.

Organizational Behaviour

On completion of the course, students should be able to

i. Cite the meaning and evolution of OB and understand the concepts of scientific management scope.
ii. Identify different types of personality theories and to analyse the perceptual process.
iii. Demonstrate the learning theories and to know the causes of job satisfaction.
iv. Apply the theories of motivation.
v. Explain the types of groups, differentiate between team and group and to know the various leadership styles.

Human Resource Management

On completion of the course, students should be able to

i. Facilitate and communicate the scope, functions and significance of human resource and their effective management in organizations.

ii. Demonstrate a basic understanding of job analysis and human resource planning and also to identify the basic problems and factors affecting HRP.
iii. Contribute to the development, implementation, and evaluation of employee recruitment and selection processes. Develop, implement, and
iv. Analyse the key issues and methods related to performance appraisal and wage and salary administration. Outline and discuss the current social
v. Analyse the concepts of international human resource management and the various aspects of e-HRM.

Quantitative Techniques

On completion of the course, students should be able to

i. To solve linear equations and probability problems.
ii. Analyse the problems related to linear programming.
iii. To solve transportation problems.
iv. Analyse Hungarian Assignment Algorithm and to determine variations of the Assignment Problem.
v. Analyse the concepts of game theory and queuing theory

Portfolio Management

On completion of the course, students should be able to

i. Understand the meaning of investment and importance of mutual funds.
ii. Understand the meaning of portfolio management and duties of portfolio manager.
iii. Analyse the capital asset pricing theory model and objectives of SEBI.
iv. Classify the approaches to security analysis and method and patterns of technical analysis.
v. Examine the risk and return analysis and functions of credit rating.

Business Law

On completion of the course, students should be able to

i. Cite the basic concepts, essential elements of a contract and to point out the legal terminologies of Indian contract act.
ii. Distinguish between indemnity and guarantee and to indicate the key features of indemnity and guarantee.
iii. Categorize the rights and duties of bailor and bailee and to discriminate the rights and duties between pawnor and Pawnee.
iv. Discover the duties and rights of an agent and principal and to enumerate the different kinds of agents.
v. Understand the need for implementing sale of goods act and thereby to defend the concept of doctrine of caveat emptor.

Production Management

On completion of the course, students should be able to

i. Cite the meaning, scope, functions and problems in production management.

ii. Identify different types of production systems, suitable plant locations and design a plant layout.
iii. Assess product design and explain the role of Production Planning and Control in production.
iv. Classify materials, apply inventory control techniques, analyse purchasing procedure and plant maintenance.
v. Examine work and control quality through various quality control techniques.

Industrial Relations

On completion of the course, students should be able to

i. Apply the industrial relation of current scenario with the approaches of industrial relation and outline factors influencing industrial relations.
ii. Inspect the recommendations of National commission on labour 1969 for strengthening Trade union and to assess the duties and liabilities of a
iii. registered Trade union. Recognize the provisions in wages act, provident fund act, maternity benefit and gratuity act.
iv. Discuss grievance handling procedure and employee indiscipline.
v. Analyse the causes of industrial dispute and explore the machineries for settlement of dispute.

Entrepreneurial Development

On completion of the course, students should be able to

i. Categorize the development of Entrepreneurship in early, middle and modern period.
ii. Discuss the growth and problems of Women Entrepreneurs
iii. Employ the opportunities of formulating Small Enterprises.
iv. Compute various financial institutions providing finance to entrepreneurs.
v. Prepare course contents of EDPs.

Financial Services

On completion of the course, students should be able to

i. Understand about meaning of financial services and challenges facing the financial sector.
ii. Classify the merchant banking and problems of merchant banking in India.
iii. Classify the features of hire purchase and types of leasing.
iv. Develop features of venture capital and benefits of factoring.
v. Categorize the different types of funds and reasons of slow growth in mutual funds.

Total Quality Management

On completion of the course, students should be able to

i. To familiarize with the basic concepts of Total Quality Management
ii. To reinforce the importance of Customer satisfaction and employee involvement in the organization.

iii. To understand the different techniques and performance measures that can be adopted in the organization.
iv. To gather information about the best industrial practices through benchmarking.
v. To assimilate the need for Quality management and environment management system in organizations.

Business Organisation

On completion of the course, students should be able to

i. Sketch different forms of Organisation.
ii. Formulate incorporation of companies.
iii. Interpret the affairs of companies.
iv. Compare various types of business combinations.
v. Discuss about Business Associations.

Management Information System

On completion of the course, students should be able to

i. Understand the concept of management information system.
ii. Explain the process of management information system.
iii. Analyse the concepts of decision making and features of artificial intelligence.
iv. Discuss the models of data base management information system.
v. Examine the concepts of Enterprise Management Systems and Enterprise Resource Planning.

Cost Accounting

On completion of the course, students should be able to

i. Outline the cost concepts and techniques in costing.
ii. Familiarise themselves with Material cost, inventory control and maintenance.
iii. Discern Labour cost and labour turnover.
iv. Categorize the Overhead cost and methods of absorption.
v. Illustrate the different methods of costing.

Marketing Research

On completion of the course, students should be able to

i. Predict the scope of Marketing Research.
ii. Illustrate the process of Marketing Research.
iii. Experiment the methods of Sampling.
iv. Analyse various data collection methods.
v. Summarize Research report.

International Marketing

On completion of the course, students should be able to

i. Identify the motives of international marketing and outline the theories of international

trade.

ii. Interpret the various modes of entry in to international market and illustrate the product life cycle.
iii. Explain the concept of product inception and development and summarize the current scenario involving international branding along with pricing strategies.
iv. Develop an understanding in marketing channels, factors affecting channel decisions, personal selling process and to demonstrate marketing communication.
v. Appraise the need to know about the preliminaries for starting export, export agreement, import procedure and sketch out the importance of letters of credit along with import documentation.

Organisational Leadership

On completion of the course, students should be able to

i. Categorise the different types of leaders.
ii. Emphasize on entrepreneurial leadership style.
iii. Outline the different leadership theories.
iv. Determine the leadership skills required to be effective leader.
v. Elaborate on the Leadership Traits of Modern Organizational Leaders.

Environmental Studies

On completion of the course, students should be able to

i. Recognise the natural environment that we live in.
ii. Acknowledge and gratify natural components and resources.
iii. Decrease their contribution towards pollution of natural resources and instead, saving them.
iv. Identify opportunities for businesses to help promote conservation of nature and issues that endanger it.
v. Develop both individual and social ethics that would create responsible human beings.

Strategic Management

On completion of the course, students should be able to

i. Define Business and strategies in a way that they provide directions to different key mission elements.
ii. Formulate objectives, goals and strategies for business diversification and integration, using guidelines.
iii. Appraise the organisation, industry, competitors and the environment they all operate in.
iv. Implement strategies for projects, resources, functions and behaviour.
v. Exercise evaluation and control for strategies, participants, premises, implementations, surveillance and special alerts.

Management Accounting

On completion of the course, students should be able to

i. Gain the knowledge about management accounting.

ii. Analyse the uses of ratio analysis and different techniques.
iii. Assess the fund flow statement and Cash flow statement.
iv. Familiarize themselves with different types of budgets.
v. Explain the uses of standard costing and need for marginal costing.

Logistics Management

On completion of the course, students should be able to

i. Recognize various approaches and strategies in logistics.
ii. State the key concepts of logistics and Supply chain.
iii. Discriminate the Fundamentals and Decisions in Transportation.
iv. Determine the Supply chain requirements.
v. Analyse the Factors influencing in Storage and location.

Retail Management

On completion of the course, students should be able to

i. Cite and remember the meaning and features of retailing.
ii. Describe the process and factors influencing the retail consumer.
iii. Analyse the factor influencing pricing.
iv. Categorize the retail units and retail formats.
v. Evaluate the retail promotion strategies.

Department of Tamil

Course Outcomes – B.A Tamil

TAM 1201/ TAS 1201 பொதுத்தமிழ் I 3Hrs/2Cre

நோக்கம்:

தற்காலத் தமிழிலக்கியப் பரப்பில் நவீன இலக்கிய வடிவங்களான புதுக்கவிதை, நாவல், சிறுகதை ஆகியனவற்றை அறிமுகப்படுத்தி இரசனை முறையிலும், திறனாய்ந்து நோக்கும் முறையிலும் மாணவர்களை அணுகச் செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. இக்கால இலக்கிய வகைமைகளை அடையாளங்கண்டு வரையறுக்கும் திறன்களைப் பெற்றிருப்பர்.
2. மரபுக்கவிதை மற்றும் புதுக்கவிதை படைக்கும் முறைமைகளுக்கேயுள்ள இலக்கண வரையறைகளை ஒப்பிட்டு அவற்றிற்கிடையிலான ஒற்றுமை வேற்றுமைகளை அறிகிற திறன்களை எய்தியிருப்பர்.
3. தமிழ்ப் புதுக்கவிதைகளின் புதிய வரவுகளைத் தேர்வு செய்து, அப்பிரதிகளிலுள்ள நவீனத் தன்மைகளைக் கண்டறிந்து அதிநவீன இலக்கியங்கள் வெளிப்படுத்துகின்ற கருத்தாம்சங்களை தம்வாழ்நிலையோடு பொருத்திப் பார்க்கிற திறன்களை அடைந்திருப்பர்.
4. காப்பியம், நாவல் ஆகியவற்றிற்கிடையிலான பண்பாம்சங்களைப் பகுத்துப் பார்த்து வேறுபடுத்தி அறிகிற திறன்களைப் பெற்றிருப்பர்.
5. தொடக்காலச் சிறுகதைகள், நடப்புக் காலகட்டச் சிறுகதைகளைப் படைப்பதற்கு அடிப்படையாக அமைந்த முறைமை குறித்து மதிப்பீடு செய்து, அவற்றை விமரிசிக்கிற மற்றும் புதிதாகப் படைக்கிற ஆற்றல்களை எய்தியிருப்பர்.

TAM 1421 மொழி அடிப்படை 4Hrs/4Cre

நோக்கம்:

தமிழ் மொழியின் அமைப்பை பரிந்துகொண்டு பிழையின்றிப் பேசவும் எழுதவும் பயிற்றுவித்து அன்றாட நடைமுறை வாழ்வில் மொழியை சிறப்பாக கையாளும் திறனைப் பெறச்செய்தல்.

கற்றலின் பயன்:

1. தமிழ்மொழியின் வாக்கிய அமைப்பினையும் அதன் வகைகளையும் விளக்குவதற்குரிய திறனைப் பெற்றிருப்பர்
2. பெயர், வினை, அதன் வகைகள் மற்றும் வேற்றுமைகள் உருபுகள் குறித்தான பரிதலைப் பெற்றிருப்பர்.
3. தமிழ் எழுத்துக்களின் சரியான ஒலி உச்சரிப்பை அறிந்துகொள்வதோடு ஒலி மாற்றத்தினால் ஏற்படும் பொருள் வேறுபாட்டையும் விளங்கிக்கொள்ளும் திறன்பெற்றிருப்பர்.
4. மொழியைப் பிழையின்றிப் பேசவும், எழுதவும் பரிந்துகொள்ளுவதற்குமான திறனைப் பெற்றிருப்பர்.
5. எழுத்துப்பிழை, சொற்பிழை, வாக்கியப்பிழையின்றி கட்டுரை, கடிதம் எழுவதற்குரிய திறன் பெற்றிருப்பர்.

TAM 1523 கவிதை அடிப்படை 5Hrs/5Cre

நோக்கம்:

சங்க காலம் தொடங்கி மறுமலர்ச்சி காலம் வரை எழுந்துள்ள கவிதைகளை அவையெழுந்த சூழல்களோடு இணைத்து சொல்,பொருள், ஓசை, கற்பனை, உணர்வு ஆகிய பல உறுப்புகளின் கூட்டாகிய கவிதையை விளங்கச் செய்தலும், உள்ளுறை, இறைச்சி, குறிப்பு, உவமை முதலான அணிகளின் வழி கவிதையை நயக்கச் செய்தலும், படைப்பாளின் கவித்துவம் உயிராற்றலோடு வெளிப்படும் இடங்களை இனங்காணச் செய்தலும் இப்பாடத்தின் பிற நோக்கங்களாகும்.

கற்றலின் பயன்:

1. கவிதையின் கூறுகளை இனங்கண்டு அவை கவிதையில் பயின்று வரும் முறையையும், அழகையும் அறிந்து தெளியும் ஆற்றல் பெற்றிருப்பர்.
2. சங்கக் கவிதைகள், அறநெறிக் கவிதைகள், பக்தி கவிதைகள், தற்காலக் கவிதைகள் ஆகியவற்றின் பாடுபொருளையும், பாடிய புலவர்களின் தனித்துவத்தையும் அறிவதோடு அவற்றை எடுத்துரைக்கும் வன்மையையும் பெற்றிருப்பர்.
3. கவிதையின் பாடுபொருள் காலந்தோறும் மாறுவதற்கான காரணத்தை அறிந்து கொள்ளுதலும், அவை கவிதையில் பயின்று வரும் பாங்கினைப் புரிந்து கொள்ளுதலும் ஆகிய திறன்களை அடைத்திருப்பர்.
4. தற்காலக் கவிதை ஒன்றில் கவிதையின் அடிப்படைக் கூறுகள் பயின்று வரும் பாங்கினை அழகுற எடுத்துச் சொல்லும் ஆற்றல் பெற்றவராக இருப்பர்.
5. மரபுக் கவிதை தொடங்கித் தற்காலக் கவிதை வரை படைப்பாளிகள் தங்கள் படைப்புக்களில் கையாண்டுள்ள உத்திகளை அறிந்துகொண்டு, அவற்றைத் தங்கள் படைப்புக்களில் பயன்படுத்தும் திறமை பெற்றவர்களாக இருப்பர்.

TAM 1425 இலக்கிய வரலாறு - I 4Hrs/4Cre

நோக்கம்:

தமிழிலக்கிய மாணவர்களுக்காக வடிவமைக்கப்பட்டுள்ள இப்பாடம் தமிழிலக்கிய வரலாற்றைக் காலம் மற்றும் இலக்கிய வகைமைகள் அடிப்படையில் புரிந்துகொள்ளச் செய்யும். நீண்ட தமிழிலக்கியப் பரப்பின் செம்பாதியை இப்பாடம் உள்ளடக்கும்.

கற்றலின் பயன்:

1. தமிழின் தொன்மையை அடையாளப்படுத்தும் திறனைப் பெற்றிருப்பர்.
2. சங்க இலக்கியங்களில் மையமான அகமரபையும் புறமரபையும் வகைப்படுத்தி விளக்கும் திறனைப் பெற்றிருப்பர்.
3. அற நூல்களில் மையமாகியுள்ள அறக் கருத்துக்களைப் புரிந்துகொண்டு எழுதும் திறனைப் பெற்றிருப்பர்.
4. சங்க காலத்திலிருந்து காலம் தோறும் இலக்கிய வடிவங்கள் மாறுவதைக் கண்டுணரும் திறனைப் பெற்றிருப்பர்.
5. தமிழ் இலக்கியத்தின் முழுமையை உள்வாங்கிக் கொள்வதனால் போட்டித் தேர்வுக்கு முழுமையாகத் தயாராகும் திறனைப் பெற்றிருப்பர்.

TAM 1209 தொடர்பியல் 3Hrs/2Cre

நோக்கம்:

தொடர்பியல் கலையின் வகைகளைக் கூறி குறிப்பாக உடல்மொழி, பேசுமொழி, நடத்தை முறைகளின் தன்மைகள் மற்றும் முக்கியத்துவத்தைக் கற்பித்தலின் மூலம் மாணவர்களின் ஆளுமையை மேம்படுத்துவது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தொடர்பியலைப் பற்றிய பொதுவான விளக்கங்களையும் வரையறைகளையும் அறிவர்.
2. ஊடக விழிப்புணர்வின் தேவையைப் பேசுவதன் மூலம் ஊடகங்களைப் புதிய நோக்கில் விளங்கிக்கொள்ளும் திறன் பெறுவர்.
3. உடல்மொழியை நடைமுறையில் பயன்படுத்தும் திறன்களைப் பெறுவர்.
4. பேச்சுமொழியின் நுணுக்கங்களைப் புரிந்து சிறந்தவற்றோடு ஒப்பிட்டு மேம்படுத்திக் கொள்வர்.
5. பொதுவெளியில் மற்றும் நடத்தை முறைகளைப் பண்பாட்டுப் பின்புலத்தில் புரிந்து அவற்றைக் கையாளும் திறன் பெறுவர்.

TAM 1213 / TAS 1213 அடிப்படைத் தமிழ் - I 3Hrs/2Cre

நோக்கம்: தமிழ்மொழியை முதன்மைப் பாடமாகப் பயிலாத மாணவர்களுக்குத் தமிழின் நெடுங்கணக்கு, பெயர், பதிலிப்பெயர், எண்கள் மற்றும் வினைச் சொற்கள் ஆகியவற்றைப் பயிற்றுவித்து, எழுதச் செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழ் மொழி பயிலாத மாணவர்கள் தமிழின் நெடுங்கணக்கு, ஒலிப்பு முறை ஆகியவற்றை அறிந்து தெளிதலும், சுயமாக வாசித்துப் பொருள் புரிந்து கொள்ளுதலும் ஆகிய திறன்களைப் பெற்றிருப்பர்.
2. தமிழ்ச் சொற்களின் வகைப்பாட்டைப் பாகுபடுத்தி அறியும் ஆற்றல் பெற்றிருப்பர்.
3. எண்களைத் தமிழில் எழுதுவது, அவற்றை வாசிப்பதுமான திறன்களை அடைந்திருப்பர்.
4. எவருடைய உதவியுமின்றி நாளிதழ்களை வாசிக்கும் திறனை இப்பாடத்தின் வழி பெற்றிருப்பர்.
5. கடைகள், பேருந்து நிலையங்கள் ஆகிய இடங்களில் தம் தேவையைத் தமிழில் பேசிச் சாதிக்கும் திறன் அடைந்திருப்பர்.

TAM 1215 / TAS 1215 சிறப்புத் தமிழ் - I 3Hrs/2 Cre

நோக்கம்

நவீனத் தமிழிலக்கிய வகைமைகளான கவிதைகள், சிறுகதைகள், கட்டுரைகள் ஆகியனவற்றை அறிமுகம் செய்து அவற்றின் இலக்கியச் சுவைகளை உணரச்செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழ் இலக்கியத்தில் உருவான வசன கவிதைகளை இனம் கண்டு முறையாக வாசிக்கும் பயிற்சியைப் பெற்றிருப்பர்.
2. வசன கவிதையையும் நவீன கவிதையும் பொருத்திப்பார்த்து நவீன கவிதை வேறுபடுவதை அறியும் திறன் பெற்றிருப்பர்.
3. தமிழ்ச் சிறுகதைகளை வகைப்படுத்தி மதிப்பிட்டுத் திறனாயும் திறனைப் பெற்றிருப்பர்.
4. தமிழின் முக்கியமான சிறுகதைப் படைப்புக்கள் அறிமுகம் ஆவதனால் மாணவர்கள் சொந்தமாக எழுதும் திறனைப் பெற்றிருப்பர்.
5. தமிழின் முக்கியமான புனைவு அல்லாத எழுத்துக்கள் (கட்டுரை) அறிமுகமாவதனால் சொந்தமாக எழுதும் திறனைப் பெற்றிருப்பர்.

TAM 1211 தமிழிலக்கிய வரலாறு **3Hrs/2Cre**

நோக்கம்:

தமிழை முதன்மை பாடமாக பயிலாத பிறதுறை மாணவர்களுக்கு நெடிய தமிழிலக்கியம் பற்றிய அடிப்படை கூறுகளைக் கற்பிப்பது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழிலக்கிய வரலாற்றின் தொடக்ககாலத்தை இனங்கண்டு சங்க இலக்கியத்தை இலக்கண முறைமைக்கேற்ப வரிசைக்கும் திறனைப் பெற்றிருப்பர்.
2. சங்க மருவிய கால இலக்கியங்களிலும், காப்பியங்களிலும் அரம் என்ற கருத்தாக்கம் நீட்சிபெறுவதை ஒப்பிட்டுத் தனிப்பாடல்களிலிருந்து நீண்ட செய்யுள்கள் உருவானதற்கான ஒற்றுமை வேற்றுமைகளை அறிகிற திறன்களை எய்தியிருப்பர்.
3. பக்தி இலக்கியங்கள் சமண பௌத்த மரபை மறுத்துப் புத்தெழுச்சி பெற்றதை அப்பாடல்களிலேயே கண்டறிந்து அக்காலகட்டத்தோடு பொருத்திப்பார்க்கிற திறன்களை அடைத்திருப்பர்.
4. மரபான இலக்கிய வடிவங்களிலிருந்து ஐரோப்பியர் வருகை மூலம் இலக்கிய வடிவங்களில் ஏற்படுதிய மாற்றங்களைப் பகுத்தாராய்ந்து அறிகிற திறன்களைப் பெற்றிருப்பர்.
5. காலந்தோறும் வளர்ந்துவந்த தமிழிலக்கிய போக்குகளை மதிப்பீடுசெய்து அவற்றை விமர்சனம் என்கிற திறனாய்வுகலைக்கு உட்படுத்துகிற ஆற்றல்களை எய்திருப்பர்.

TAM 1427 தொல்லியலும் தமிழகமும் **5Hrs/4Cre**

நோக்கம்:

தொல்லியல் ஆய்வுகளின் அடிப்படைகளை அறியச் செய்து, தமிழகத் தொல்லியல் தரவுகளை இலக்கியத்தோடு ஒப்பிட்டு நோக்கச் செய்தல் இப்பாடத்தின் நோக்கமாகும். மாணவர்களைத் தொல்லியல் களங்களைப் பார்வையிடச் செய்தலும் கல்வெட்டுப் படியெடுக்கப் பயிற்சி பெறச்செய்தலும் இப்பாடத்துள் அடங்கும்.

கற்றலின் பயன்:

1. தமிழகத் தொல்லியல் தரவுகளைத் தமிழ் இலக்கியத்தோடு ஒப்பிட்டு வரையறை செய்யும் திறனை மாணவர்கள் பெற்றிருப்பர். இந்தியத் தொல்லியல் துறையின் முன்னோடிகளையும் அகழாய்வு முறையினையும் அதற்குத் தேவைப்படும் கருவிகளையும் பொருட்களையும் மாணவர்கள் உற்றுநோக்கி அறிந்திருப்பர்.

2. நடுகல், முதுமக்கள், தாழிகள், மட்பாண்டங்கள், பாறை ஓவியங்கள், கல்வெட்டு, செப்பேடுகள், நாணயங்கள், ஆவணங்கள், வெளிநாட்டார் பயணக்குறிப்புகள் என வகைப்படுத்தும் திறனை மாணவர்கள் பெற்றிருப்பர்

3. தமிழகத்தில் நடந்த அகழாய்வு மூலம் வரலாற்றுக்காலத்தினை விவரிக்கும் திறனை மாணவர்கள் பெற்றிருப்பர்.

4. தொல்லியல் கூறுகளுக்கும் தமிழ் இலக்கியங்களுக்கும் இடையே உள்ள பொருத்தப்பாடுகளை மாணவர்கள் மதிப்பீடு செய்யும் திறனை பெற்றிருப்பர்.

5. தொல்லியல் களச்சுற்றுலாவின் மூலம் வரலாற்று அறிவை மாணவர்கள் விசாலப்படுத்தி தமிழக வரலாற்றின் உண்மைத்தன்மையை பொருத்திப்பார்ப்பர்.

TAM 1202 / TAS 1202 **பொதுத்தமிழ் - II** **3Hrs/2Cre**

நோக்கம்:

20-ஆம் நூற்றாண்டில் எழுதப்பட்ட மரபுக்கவிதைகளை இரசனை முறையில் அணுகச் செய்தலும் பயிற்சியின் மூலம் மாணவரகளின் எழுத்துத் திறனை மேம்படுத்துவதும் இப்பாடத்தின் நோக்கமாகும். பொதுத்தமிழ் 1-இன் தொடர்ச்சியாக இது அமையும்.

கற்றலின் பயன்:

1. இருபதாம் நூற்றாண்டில் எழுதப்பட்ட மரபுக் கவிதைகளை மாணவர்கள் உற்றுநோக்கி அறிந்திருப்பர்.

2. மொழிப்பயிற்சி மூலம் அடிப்படைத் தமிழ் இலக்கணத்தை மாணவர்கள் விளக்கும் திறன் பெற்றிருப்பர்

3. வாக்கிய வகை, வாக்கிய அமைப்பு அதனை அமைக்கும் முறையைப் பகுத்துப் பொருத்திப்பார்க்கும் திறனை மாணவர்கள் பெற்றிருப்பார்.

4. கடிதம் எழுதுதல், கட்டுரை எழுதுதலை மாணவர்கள் மதிப்பீடு செய்யும் திறனைப் பெற்றிருப்பர்.

5. பிழை நீக்கலையும் பிழை திருத்தலையும் மாணவர்கள் மனசீரமைக்கும் திறனைப் பெற்றிருப்பர்.

TAM 1422 **இக்காலக் கவிதை** **4Hrs/4Cre**

நோக்கம்:

பாரதி தொடங்கி ஒரு நூற்றாண்டுத் தமிழ்க் கவிதைகளை அறிமுகப்படுத்துவதும் கால வரிசையில் அல்லாத உருவம், உத்திகள், கருத்தியல் பின்புலத்தில் சமகாலம் வரையிலுமாக உள்ள தமிழ்ப் புதுக்கவிதையுலகின் பல்வேறு போக்குகளை அறிமுகப் படுத்துவதும் இப்பாடத்தின் நோக்கங்களாகும்.

கற்றலின் பயன்:

1. பன்முகப்பட்ட கவிதை வடிவங்களை அடையாளங்கண்டிருப்பர்.
2. பல்வித கவிதைகளின் பாடுபொருட்களை மதிப்பீடு செய்ய கற்றிருப்பர்.
3. சமூக விடுதலை, இடதுசாரி சிந்தனைகளை அடிப்படையாகக் கொண்ட கவிதைகளைப் பிற கவிதைகளினின்று வேறுபடுத்தும் திறன் பெற்றிருப்பர்
4. தற்காலத்தெழுந்த கவிதைகளை நவீனக் கோட்பாட்டோடு பொருத்திப் பார்ப்பர்.
5. புதுக்கவிதைகளைப் புனையும் திறன் பெற்றிருப்பர்

TAM 1524 **புனைகதை** **5Hrs/5Cre**

நோக்கம்:

உரைநடை மற்றும் புனைகதை இலக்கிய அடிப்படைத்தகவல்களைக் கூறி தீவிரவாசிப்பு, திறனாய்வு உள்ளிட்ட நுட்பங்களை அறிமுகம் செய்தலே இப்பாடத்தின் நோக்கமாகும். தமிழ்ப் புனைகதை இலக்கியத்தின் தோற்றப் பின்புலம், புனைகதைக் கூறுகள், திறனாய்வுப் போக்குகள் ஆகியவற்றையும் தொட்டுச் சொல்வதாக இப்பாடத்திட்டம் அமையும்.

கற்றலின் பயன்:

1. தமிழ் இலக்கிய உலகில் கவிதை பெற்றிருக்கும் செல்வாக்கை உரைநடை இலக்கியம் பெறுவதைக் காலச் சூழலோடு பொருத்திப் பார்த்து அறிந்து கொள்ளும் திறன் பெற்றிருப்பர்.
2. புனைகதை இலக்கியத்தின் கூறுகளை எற்ற பிரதிகளோடு இணைத்துப் புரிந்துகொள்ளும் திறன் பெறுவதோடு அவற்றைப் பாங்குற விமரிசிக்கும் திறனையும் பெற்றிருப்பான்.
3. தமிழ் நாவல்களின் வகைமைகளை அறிந்து கொள்வதோடு. புத்தம் புது நாவல் வகுகளை எவ் வகைமைக்குள் அடக்குவது என்ற திறனையும் பெற்றிருப்பர்.
4. புனைகதைக் கூறுகளை உள்வாங்கிக் கொண்டு தனது வாழ்வியல் சூழலைப் பிரதிபலிக்கும் வகையில் நாவலை எழுதும் திறனை அடைந்திருப்பர்.
5. படைப்பாளிகள் தங்கள் படைப்புக்களில் கையாண்டுள்ள உத்திகளைத் தெளிவு அறியும் ஆற்றல் பெற்றிருப்பர்.

TAM 1426 இலக்கிய வரலாறு –II **4Hrs/4Cre**

நோக்கம்:

தமிழிலக்கிய மாணவர்களுக்காக வடிவமைக்கப்பட்டுள்ள இப்பாடம் தமிழிலக்கிய வரலாற்றை காலம் மற்றும் இலக்கிய வகைமைகள் அடிப்படையில் புரிந்துகொள்ளச் செய்யும் நீண்ட தமிழிலக்கியப்பரப்பின் செம்பாதியில் பிற்பகுதியை இப்பாடம் உள்ளடக்கும்

கற்றலின் பயன்:

1. சோழர் காலத்தில் எழுதப்பட்ட இலக்கண இலக்கிய படைப்புக்களை முழுமையாக தெரிந்துகொண்டு வகைப்படுத்திப் பார்க்கும் திறனைப் பெற்றிருப்பர்
2. சிற்றிலக்கியங்களைப் பற்றி முழுமையாக உள்வாங்கிக் கொள்வதோடு அவற்றை விளக்கும் திறனைப் பெற்றிருப்பர்.
3. நாயக்கர் ஆட்சிக்காலத்தோடு அக்காலத்தில் உருவான சிற்றிலக்கியங்களின் வருகையைப் பொருத்திப் பார்க்கும் திறனைப் பெற்றிருப்பர்.
4. ஐரோப்பியர் கால வளர்ச்சியைக் கருத்தில் கொண்டு தமிழ்ச்சமூகம் எவ்வாறு நவீனத் தன்மை அடைந்தது என்று புரியும் திறனைப் பெற்றிருப்பர்.
5. தமிழ்ச்சமூகம் பற்றிய வரலாறு முழுமையாக விளக்கப்படுவதால் இவற்றிலிருந்து சொந்தமாக எழுதும் திறனைப் பெற்றிருப்பர்.

TAM 1210 திரைப்பட ரசனையும் குறும்படத் தயாரிப்பும் 3Hrs/2Cre

நோக்கம்:

திரைப்படக் கலையின் அடிப்படைகளை அறியச்செய்வதன் மூலம் மாணவர்களின் திரைப்பட ரசனையை மேம்படுத்தி குறும்படத்தயாரிப்பில் பங்கு பெறச் செய்தல் இப்பாடத்தின் நோக்கமாகும். இதன் மூலம் திரைப்படங்கள், தொலைக்காட்சித் தொடர்கள், விளம்பரங்கள் உள்ளிட்ட காட்சி ஊடகங்களில் தங்கள் ஆர்வங்களைப் பட்டை தீட்டிக் கொள்ளும் வாய்ப்பை மாணவர்கள் பெறுவர் திரைக்கலையின் அடிப்படைகள் - திரைப்படம் எனும் கூட்டுக்கலை – திரைப்படம் எனும் அறிவியல் கலை.

கற்றலின் பயன்:

1. திரைமொழியின் அடிப்படைகளை அறியச் செய்வதன் மூலம் அவற்றைப் பற்றிய விளக்கம் பெறுவர்.
2. குறும்படங்கள், முழுநீளத் திரைப்படங்களுக்கிடையேயான வேறுபாடுகளை புரிந்துகொள்வர்.
3. உலகளவிலான படங்களைத் திரையிடுவதன் மூலம் சிறந்தவற்றை அடையாளம் காண்பர்.
4. மேலே கற்றவற்றைப் பயன்படுத்திக் குறும்படத்திற்கான திரைக்கதைகளை உருவாக்குவர்.
5. குழுவாக இணைந்து ஒரு குறும்படத்தைத் தயாரிப்பதன் மூலம் தங்கள் படைப்பாற்றலை வெளிக்காட்டும் திறன் பெறுவர்.

TAM 1212 **தமிழக வரலாறும் பண்பாடும்** **3Hrs/2Cre**

நோக்கம்:

தமிழக வரலாற்றையும் அதன் பண்பாட்டுக் கூறுகளையும் இலக்கியச் சான்றுகள் மற்றும் வரலாற்றுச் சான்றுகளின் அடிப்படையில் கற்கச் செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழக வரலாற்றை இலக்கிய சான்றுகள் மற்றும் வரலாற்று சான்றுகளின் அடிப்படையில் மாணவர்கள் வரையறை செய்யும் திறனை பெற்றிருப்பர்.

2. தமிழக வரலாற்றை அறிந்து கொள்ள உதவும் அடிப்படைச் சான்றுகளை வகைப்படுத்தும் திறனை மாணவர்கள் பெற்றிருப்பர்.

3. சங்க காலம், சங்கம் மருவிய காலம் களப்பிரர் காலம், பல்லவர் காலம், பிற்காலச் சோழர் காலம், பிற்காலப் பாண்டியர், காலம் தென்னகத்தில் இஸ்லாமிய ஆதிக்கம், விஜய நகரப் பேரரசு, நாயக்கர் காலம் ஐரோப்பியர் காலம், விடுதலைக்கு பின் தமிழகம் எனக் கால வரிசையில் மாணவர்கள் தமிழக வரலாற்றை விவரிக்கும் திறனை பெற்றிருப்பர்.

4. பேரரசுகளின் தோற்றம் ஆட்சி, முறை, சமயம், கட்டிடக் கலை, நிர்வாகம், போர் முறை ஆகிய கூறுகளை மாணவர்கள் மதிப்பீடு செய்யும் திறனைப் பெற்றிருப்பர்.

5. சமுதாயம், சமயம், போர் உணர்வு, தொழில், சடங்கு, பண்பாடு, தமிழகப் பேரரசுகள், குறுநில மன்னர்கள், வள்ளல்கள் என்பவற்றின் பின்னணியுடன் தமிழக வரலாற்றை மாணவர்கள் பொருத்திப்பார்ப்பர்.

TAM 1214 / TAS 1214 **அடிப்படைத் தமிழ் II** **3Hrs/2Cre**

நோக்கம்:

தமிழை முதன்மைப்பாடமாகப் பயிலாத மாணவர்களுக்குத் தமிழ் மொழியின் அடிப்படைகளான வினை வடிவங்கள், வேற்றுமைத் தொகைகள், எண்கள், தமிழ்நாட்கள், மாதங்கள் ஆகியனவற்றை விளக்கி சிறுவாக்கியங்களை அறிமுகம் செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. அன்றாட வாழ்வுக்குத் தேவைப்படும் அடிப்படையான மரபு இலக்கணங்களை அறிந்து அவற்றைத் தேவைக்கேற்ப பயன்படுத்தும் ஆற்றல் பெற்றிருப்பர்.
2. வினைச்சொற்கள், அவற்றின் உறுப்புக்கள், எண்வகை வேற்றுமைகள், அறுவகைத் தொகைகள் ஆகியன பேச்சு வழக்கில் வருவதை அறிந்து தெளிவதையும் அவற்றைப் பாங்காகப் பயன்படுத்தும் திறன் பெறுதலையும் ஒரு சேரப் பெற்றிருப்பர்.
3. தமிழ் எண்கள் நூறு வரை எழுதிப் பழகும் திறன் பெற்றிருப்பர்.
4. தமிழ் நாட்களின், மாதங்களின் பெயர்களையும் எழுதும் பெற்றிருப்பர்.
5. சிறிய தொடர்களை அமைக்கும் முறையை அறிந்து கொள்வதோடமையாது பிழையின்றிப் பார்க்கும் முறையையும் அறிந்திருப்பர்.

TAM 1216 / TAS 1216 **சிறப்புத் தமிழ் - II** **3Hrs/2Cre**

நோக்கம்:

தமிழில் காலந்தோறும் எழுந்த இலக்கியங்களைப் பொருண்மை நோக்கில் விளக்கி, அந்தந்தக்கால இலக்கியங்களின் பகுதிகளைக் கற்கச் செய்வதன் மூலமாக மரபிலக்கிய அறிமுகத்தைப் பெறச்செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. சங்க இலக்கியக் கவிதைகளை முறையாக வாசிக்கும் திறனைப் பெற்றிருப்பர்.
2. காப்பிய இலக்கியம் பற்றிய புரிதலை உள்வாங்கிக் கொள்வதோடு வகைப்படுத்தும் திறனையும் பெற்றிருப்பர்.
3. நாயன்மார்களும் ஆழ்வார்களும் கருத்தியல் நிலையில் ஒன்றுபடும் வேறுபடும் விதத்தினை இணைத்துப் புரிந்துகொள்ளும் திறனைப் பெற்றிருப்பர்.
4. சிற்றிலக்கியங்களில் மையமாகும் கருத்தியல் குறித்து விவாதிக்கும் திறனைப் பெற்றிருப்பர்.
5. சங்க இலக்கியங்களிலிருந்து நவீன கால இலக்கியத் தொடக்கம் வரைக்கும் அறிமுகம் ஆவதனால் முறையாகப் போட்டித்தேர்வுக்குத் தயாராகும் திறனைப் பெற்றிருப்பர்.

TAM 1428 **நாட்டுப்புறவியல்** **5Hrs/4Cre**

நோக்கம்:

நாட்டுப்புறவியல் எனும் துறையை அறிமுகம் செய்வித்து, நாட்டுப்புற மக்களின் வாழ்வியலோடு பிணைந்துள்ள பண்பாட்டுச் செயல்பாடுகளைக் கோட்பாடுகளின் வழி புரிந்துகொள்ளச் செய்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. வாய்மொழி வழக்காறுகளின் இயல்புகளை அடையாளப்படுத்தி (Identify) புரியும் திறன் பெற்றிருப்பர்.
2. வாய்மொழி இலக்கியத்திற்கான பண்புகளை விளக்கி (Explain) வாய்மொழி மற்றும் செவ்வியல் இலக்கியங்கள் இணையும் மற்றும் வேறுபடும் (Differentiate) இடங்களைப் புரியும் திறன் பெற்றிருப்பர்.
3. நாட்டுப்புற வழக்காறுகள் காலந்தோறும் சூழலுக்கு ஏற்றவாறு தங்களுக்குள் கருங்கி விரியும் தன்மைபெற்று வளர்ச்சியடைந்தமையைச் (Develop) சான்றுகளுடன் மாணவர்கள் அறியும் திறனடைவர்.
4. நாட்டுப்புற வழக்காறுகள் நிகழ்த்தப்படும் சூழல்களைக் கூர்ந்தறிந்து (Focus) கற்கும் திறன் பெற்றிருப்பர்.
5. நாட்டுப்புற வழக்காறுகளுக்கும் சமூகத்திற்குமான உறவினை மதிப்பிடு (Evaluate) செய்யும் பயிற்சி பெற்றிருப்பர்.

TAM 2201 / TAS 2201 **பொதுத்தமிழ் III** **3 Hrs/2Cre**

நோக்கம்:

பொதுத்தமிழ் பயிலும் மாணவர்களுக்குப் பகுதி I பிரிவில் அமைகிறது இப்பாடம். முதலிரண்டு பருவங்களில் பயின்ற இலக்கியங்களுக்கு முந்தைய காலகட்ட இலக்கியங்களை அறிமுகப்படுத்துகிறது. அந்தவகையில் காப்பியங்கள் தொடங்கி நவீன இலக்கியம் தொடங்குவதற்கு முன்பு வரையிலான இலக்கியங்கள் இப்பாடத்திற்குள் அடங்கும்.

கற்றலின் பயன்:

1. இலக்கண வரையறைகளுக்கேற்ப அமைந்த காப்பியங்களை அடையாளங்காணும் திறன்பெற்றிருப்பர்.
2. பக்தி இலக்கியங்கள், படைக்கப்பட்ட காரணிகளை ஒப்பிட்டுப் பிறவற்றிலிருந்து வேறுபடும் பாங்கை அறியும் திறன்களைப் பெற்றிருப்பர்.
3. சிற்றிலக்கியங்களின் உள்ளடக்கத்தினை அக்காலகட்ட பின்னணியில் பொருத்திப் பார்க்கும் திறன்களைப் பெற்றிருப்பர்.
4. சித்தர் பாடல்கள் இலக்கியமாகவும் மெய்யியலாகவும் அமைந்துள்ள பாங்கினை பகுத்தறியும் திறன்களைப் பெற்றிருப்பர்.
5. காப்பியங்கள் பக்திபாடல்கள், சித்தர்பாடல்கள் ஆகியவற்றை மதிப்பிடு செய்து திறனாய்வுகட்டுரைகளாக ஆக்குகிற ஆற்றல்களைப் பெற்றிருப்பர்.

TAM 2541 சங்கம் - வரலாறு 5 Hrs/5 Cre

நோக்கம்: ஈராயிரமாண்டுத் தமிழ்க் கவிதைப் படைப்புமுயற்சியில் மைய இழையாகத் தொடர்ந்துவருகிறஅகநெறிக் கூறுகளைஅவ்வவ் காலகட்டங்களில் படைப்பாக்கம் பெற்றுள்ளகவிதைகளின் வாயிலாக இனங்கண்டுபயிலுதல் இப்பாடத்திட்டத்தின் நோக்கமாக அமைகிறது.

கற்றலின் பயன்:

1. தமிழ் இலக்கண இலக்கியங்களின் வழியாக அகத்திணைப் பாகுபாட்டினை அறிந்து, அறநெறிக் காலத்தில் சங்க அக மரபின் தொடர்ச்சியையும் மாற்றத்தையும் கவிதைகளுக்குள் அடையாளப்படுத்தி புரியும் திறன் பெற்றிருப்பர்.
2. பக்திநெறிக் காலத்தில் அகமரபில் எழுந்த மாற்றங்களை இலக்கியங்களை மேற்காட்டி விளக்குவதன் வழியாக மாணவர்கள் முந்தைய அகமரபு நெறிகளை வேறுபடுத்திப் புரியும் திறன் பெற்றிருப்பர்.
3. தமிழ்க் காப்பியங்களில் அகமரபுகள் மாற்றமடைந்து புதிய அகமரபுகள் வளர்ச்சியடைந்தமையைச் சான்றுகளுடன் மாணவர்கள் அறியும் திறனடைவர்.
4. சிற்றிலக்கியங்களில் சங்க அகமரபு மாறிய விதங்கள் இலக்கியச் சான்றுகளின் வழியாகக் கூர்ந்தறிந்து கற்கும் திறன் பெற்றிருப்பர்.
5. தற்கால அகமரபுகளின் வளர்ச்சியில் பழமையும் புதுமையும் இணைந்திருக்கும் பாங்கினைத் தொகுத்து, மதிப்பிடு செய்யும் பயிற்சி பெற்றிருப்பர்.

TAM 2533 கவிதை – இறநெறி 5Hr/5Cre

நோக்கம்:

தொல் பழங்காலம் முதல் பாரதியார் காலம் வரை தமிழர்களின் இறை பற்றிய கருத்தாக்கத்தை அந்தந்தக் காலங்களின் கவிதைகள் கொண்டு அணுகுவது இந்தப் பாடத்திட்டத்தின் நோக்கம்.

கற்றலின் பயன்

1. கவிதை தோன்றுவதற்கு முன் இருந்த வழிபாட்டு முறைகளையும் அதன் வளர்ச்சியையும் நிரல்படுத்தும் திறன் பெற்றிருப்பர்.
2. பல்வேறு சமயங்களின் கொள்கைகளையும், அவற்றிக்கிடையேயுள்ள இணக்கத்தையும் இணக்கமின்மையையும் தமிழ்ச் சமூகத்தில் அவை ஏற்படுத்திய தாக்கத்தினையும், இலக்கியங்கள்வழி புரிந்துகொள்ளும் ஆற்றல் பெற்றிருப்பர்.
3. இப்பாடம் வழங்கிய சமய அறிவைப் பயன்படுத்தித் தமிழகத்தின் பல்வேறு வழிபாட்டுத் தலங்களின் நடைமுறையை வெளிநாட்டினர்க்கு எடுத்துரைக்கும் வன்மை பெற்றிருப்பர்.
4. சமய நல்லிணக்கத்திற்கு உகந்த வகையில் இலக்கியங்களைப் பயன்படுத்தித் திட்டமிடும் ஆளுமையையும் நடைமுறைப்படுத்தும் திறனையும் பெற்றிருப்பர்.
5. தற்சார்பின்றிப் பிறவய நிலையில் சமய இலக்கியத்தை மதிப்பிடும் திறன் பெற்றிருப்பர்.

TAM 2525 **நன்னூல் - எழுத்து** **5Hrs/ 5 cre**

நோக்கம்:

தமிழ் எழுத்துக்களின் அமைப்படையான இலக்கண இயல்புகளை விளக்கும் நன்னூல் எழுத்ததிகார இலக்கணத்தினை, சமகால மொழிப்பயன்பாட்டை மாணவர்கள் பிழையின்றிப் பயன்படுத்துவதற்கு ஏற்றவகையில், கற்பித்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தமிழ் இலக்கண நூல்களுள் நன்னூல் கூடுதல் பயிற்சி நோக்கத்துடன் எழுதப்பட்ட ஒரு மொழி இலக்கணம் என்பதை அடையாளங் காணும் திறன் பெற்றிருப்பர்.
2. மொழியின் அமைப்பொழுங்கில் எழுத்தியல் ஒரு முக்கியமான கூறு எழுத்தியல் சிந்தனையும், அவற்றின் புனைவும், எழுத்துக்கள் தொழிற்படும் தன்மையும், அதன் விளைவாக ஏற்படும் வடிவ மாற்றங்களும் பற்றிய மொழி இயங்குமுறையை ஒப்பிட்டு ஆராய்ந்திருப்பர்.
3. இலக்கணச் செல்நெறியில் தமிழ் அடையாள மீட்டெடுப்புக்குக் காரணமாக அமைந்த வடஎழுத்து தமிழில் விரவிய நிலையைச் (தற்சம, தற்பவ) சமயப் பண்பாட்டு நோக்கில் மதிப்பீடு செய்யும் ஆற்றலைப் பெற்றிருப்பர்.
4. இலக்கணப்பிழைகள், புணர்ச்சி விதிகளின் பயன்பாடு குறித்த புரிதல்களைப் பயிற்சி அமைப்படையில் வெளிப்படுத்தும் திறன்களைக் கொண்டிருப்பர்.
5. தற்கால மொழியில் ஏற்பட்டிருக்கிற மாற்றங்களை உள்வாங்கிய நிலையில் எழுத்திலக்கண வாசிப்பில் புதிய அணுகுமுறைகளைக் கண்டறியும் திறன்களைப் பெற்றிருப்பர்.

TAM 2427 **புதிய ஊடகங்களும் தமிழும்** **4 HRS/ 4 cre**

நோக்கம் : 20 ஆம் நூற்றாண்டின் பிற்பகுதியில் கணினி மயப்படுத்தப்பட்ட (Computerized), இணைய வலைப்பின்னல் (Internet) tதாமைப்பிற்குள் செயல்படும். மின்னணுமயமான (Digitalized) ஊடகச் செயல்பாடுகளை அறிமுகப்படுத்தி தமிழில் இப்புதிய ஊடகங்களின் (மின்னஞ்சல், வலைத்தளங்கள், வலைப்பூக்கள், முகநூல், காணொளிக் காட்சிகள் இன்ன பிற) செயல்பாடுகள். அதன் வீச்ச சாதக பாதக அம்சங்கள் ஆகியனவற்றை அறிமுகப்படுத்தியும் விவாதித்தும் மாணவர் அவர்தம் வளர்ச்சிக்கும் வேலைவாய்ப்பிற்கும் இவ்வூடகங்களைப் பயன்படுத்துவதற்கான வழிமுறைகளுக்கு முக்கியத்துவம் அளிக்கும்.

கற்றலின் பயன்:

1. தகவல் யுகத்தின் தோற்றம் - வளர்ச்சி - இன்றய நிலையை விளங்கிக் கொள்வர்.
2. இணைய உலகில் தமிழ் மொழி, இலக்கியம் சார்ந்த செயல்பாடுகளைப் இணைத்துப் பார்க்கும் திறன் பெறுவர்.
3. இணையம் சார்ந்து செயல்படும் திறன் பெறுவர்.
4. இன்றைய காட்சிக் கலாச்சாரத்தில் மின்னணுமயமான பிம்பங்களை விமர்சிக்கும் / பகுத்தாயும் திறன் பெறுவர்.
5. சமூக ஊடகங்களின் பின்னுள்ள வாணிபம், அரசியல், பண்பாட்டுத் திணிப்பு ஆகியவற்றை எதிர்நோக்கும் பக்குவம் பெறுவர்.

TAM 2429 **பிறமொழி இலக்கியம்** **5 Hrs /4 Cre**

நோக்கம் : உலகளாவிய அளவில் படைப்பாக்கம் பெற்றுள்ள நவீன இலக்கிய வகைமைகளையும் படைப்புக் கர்த்தாக்களையும் அறிமுகஞ் செய்து, அவற்றின்வழி, பிற மொழிகளில் நிலவிவந்துள்ள இலக்கியப் போக்குகளைத் தமிழ்மொழிவழி அறியச் செய்தல் இப்பாடத்தின் நோக்கமாகும். மேலும், அயல்மொழிப் படைப்புப் பிரதிகளின் பன்முகப்பட்ட பண்புகளை, விதவிதமான சுருத்தியற் பொருண்மைகளை அடையாளங்காட்டுதலும், உலக இலக்கியங்கள் மீதான வாசிப்பு ஆர்வத்தை வளரச் செய்தலும் இப்பாடத்தின் பிற நோக்கங்களாகும்.

* பிறமொழிகளிலிருந்து தமிழில் பெயர்க்கப்பட்டு, தென்னிந்திய, இந்திய - ஆசிய - உலக அளவிலான நவீன இலக்கிய வகைமைகளைப் பிரதிநிதித்துவப்படுத்திடும் குறிப்பிடத்தக்க நாவல்கள், சிறுகதைகள், கவிதைகள், கட்டுரைகள் இப்பாடத்திற்கான பகுதிகளாக அமைவு பெறும்.

கற்றலின் பயன்:

1. உலகளாவிய அளவில் படைப்பாக்கம் பெற்றுள்ள நவீன இலக்கிய வகைமைகளை அடையாளங்கண்டு அவை தமிழ் இலக்கியப் பரப்பில் ஏற்படுத்திய தாக்கங்களை உற்றுநோக்குகிற திறன்களைப் பெற்றிருப்பர்.
2. தென்னிந்திய அளவிலான நவீன இலக்கிய மேதைகளைத் தெரிவு செய்து, அப்படைப்புகளில் உள்ள தனித் தன்மைகளைக் கண்டறியும் திறன்களை அடைந்திருப்பர்.
3. இந்திய அளவிலான நவீனயிலக்கியப் பிரதிகளில் தென்படுகிற தொன்மை, சிறப்புகள் முதலான அம்சங்களைப் பகுத்துப் பார்த்து அவற்றில் தென்படுகிற வாழ்வியல் கூறுகளை வேறுபடுத்தி அறிகிற திறன்களைப் பெற்றிருப்பர்.
4. ஆசிய அளவிலான நவீன இலக்கியப் படைப்புகளானவை, ஏனைய பிற புலங்களின் மீது செலுத்திய தாக்கங்கள் குறித்து மதிப்பீடு செய்கிற ஆற்றலை எய்தியிருப்பர்.
5. உலக இலக்கியச் சிறப்பம்சங்களை ஒட்டுமொத்தமாகக் கூர்ந்து அவதானித்து, அவற்றைப் போலப் புதிதாகத் தமிழிலும் படைத்திடும் திறன்களை அடைந்திருப்பர்.

TAM 2202 / TAS 2202 **பொதுத்தமிழ் - IV** **3 Hrs/2 Cre**

நோக்கம் :

மரபார்ந்த இலக்கியங்களின்வழி பழந்தமிழ் மரபினையும் சங்க காலத் தமிழரின் பரந்துபட்ட வாழ்வியல் நெறிமுறைகளையும் மாணவர் அறியச் செய்வது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. மொழியைக் கற்றுக் கொள்வதில் இலக்கியத்தின் தேவை, இலக்கிய வகைகள் மற்றும் இலக்கிய வடிவங்கள் பற்றிய முழுமையான அறிமுகத்தைப் பெற்றிருப்பர்.
2. தமிழ்ச் சமூகத்தின் அடையாள உருவாக்கத்திற்குச் செவ்விலக்கியங்கள் முக்கிய வினையாற்றுகின்றன என்பதை அடையாளங் காணும் திறன் பெற்றிருப்பர்.
3. இலக்கிய வாசிப்புப் பயிற்சியின் மூலம் கவனச்செறிவுடன் இலக்கிய அழகியலை நுட்பமாக உணர்வதோடு கற்பனையாற்றலோடு படைப்பாக்கத்திறனையும் மேம்படுவர்.
4. சங்கப் பனுவல்களை – அதன் கதையாடல்களைச் சமகால வாசிப்பு முறையியல் நோக்கில் அவதானித்து மதிப்பிடுவர்
5. இலக்கியக் கல்வியின் பயனாகச் சமூகப் பிரச்னையோடு தனித்துவம் மிக்கவராக, வாழ்க்கை மதிப்பீடுகளைச் சமன் நிலையில் எதிர்கொள்ளும் இயல்பினராக இருப்பர்.

TAM 2542 **சங்கம் - புறநெறி** **5Hrs/5 Cre**

நோக்கம் சங்ககாலம் தொடங்கி தற்காலம் வரை எழுந்துள்ள கவிதைகளை அடிப்படையாகக் கொண்டு, காலந்தோறும் மாறி வருகின்ற மனிதவாழ்க்கை, மதிப்பீடுகளுக்கேற்ப புறப்பொருள் மாறிவந்துள்ளமையைக் கற்றல். முதல் கூறில் தொல்காப்பியப் புறத்திணைகளோடும், ஐயனாரிதனாரின் புறப்பொருள் வெண்பாமாலையோடும் பொருத்திப் பார்த்தல்.

கற்றலின் பயன்:

1. தமிழ் இலக்கண இலக்கியங்களின் வழியாகப் புறத்திணைப் பாகுபாட்டினை அறிந்து, நிலைத்தன்மையுடைய கருத்துகள் பாடுபொருளாகும் முறையினைக் கவிதைகளுக்குள் அடையாளப்படுத்தி புரியும் திறன் பெற்றிருப்பர்.
2. மனிதநேயத்தின் அவசியத்தைக் கூறும் கவிதைகளை அறநெறி மற்றும் பக்திநெறி இலக்கியங்களை மேற்காட்டி விளக்குவதன் வழியாக மாணவர்கள் முந்தைய புறமரபு நெறிகளை வேறுபடுத்திப் புரியும் திறன் பெற்றிருப்பர்.
3. தமிழ்க் காப்பியங்களில் புறமரபுகள் மாற்றமடைந்து புதிய அகமரபுகள் வளர்ச்சியடைந்தமையைச் சான்றுகளுடன் மாணவர்கள் அறியும் திறனடைவர்.
4. தொல்காப்பியத் துறைகள் சிலவும் சங்க இலக்கியப் புறத்துறைகளுள் சிலவும் சிற்றிலக்கியங்களில் பரிணமித்துள்ள போக்கினை இலக்கியச் சான்றுகளின் வழியாகக் கூர்ந்தறிந்து கற்கும் திறன் பெற்றிருப்பர்.
5. தற்காலக் கவிதைகளில் சூழலுக்கேற்ப உள்ளடக்கத்திலும் வடிவத்திலும் மாறிவரும் புறப்பொருள் கருத்துக்களைத் தொகுத்து, மதிப்பீடு செய்யும் பயிற்சி பெற்றிருப்பர்.

TAM 2524 **இயக்கமும் இலக்கியமும்** **5 Hrs /5 Cre**

நோக்கம் .

உலகளாவிய அரசியல், சமூக, இலக்கிய இயக்கங்களின் உந்துதல்களால் உருப்பெற்று வளர்ந்துள்ள, வேறுபட்ட இலக்கியப் போக்குகளுள் குறிக்கத்தக்க சிலவற்றை, அவ்வவ் இயக்கங்களின் பின்னணியில் கண்டு விளங்கிக் கொள்வதே இப்பாடத்தின் நோக்கமாகும். பன்முகப்பட்ட இயக்கங்களைப் பிரதிநிதித்துவப்படுத்திடும் நாவல், சிறுகதைகள், கவிதைகள், நாடகம் முதலான இலக்கிய வகைமைகள் இப்பாடத்திட்டத்தினுள் இடம்பெறும்.

கற்றலின் பயன்:

1. உலகளாவிய ரீதியில் அரசியல், சமூக, பொருளாதார, இலக்கிய இயக்கங்களின் உந்துதல்களால் உருப்பெற்று வந்துள்ள நவீன இலக்கிய வகைமைகளை அடையாளங்கண்டு பயிலும் திறன்களைப் பெற்றிருப்பர்.
2. இந்திய- தமிழக அளவிலான அரசியலில் தொடங்கி, இலக்கியத்தினுள் தழைந்த இயக்கங்களை ஒப்பிட்டு அவற்றிற்கிடையிலான ஒற்றுமை வேற்றுமைகளை அறிகிற திறன்களை எய்தியிருப்பர்.
3. மேலைத்தேயக் கோட்பாடுகளின் தாக்கத்தால் இந்திய- தமிழகப் பரப்பில் உருப்பெற்ற கோட்பாடுகளைத் தேர்வு செய்து அவற்றை நவீனத் தமிழ்ப் புனைவுப் பிரதிகளோடு பொருத்திப் பார்க்கிற திறன்களை அடைந்திருப்பர்.
4. தமிழிலக்கியப் பரப்பில் தொடக்க காலத்தில் பரவிய, மேற்கத்திய இலக்கியக் கோட்பாடுகளின் தன்மைகள் குறித்துப் பகுத்துப் பார்த்து அவற்றிற்கிடையிலான தன்மைகளை வேறுபடுத்தி அறிகிற திறன்களைப் பெற்றிருப்பர்.
5. சமகாலத் தமிழிலக்கியச் சூழலில் பரவிய மேலையிலக்கியக் கோட்பாடுகளின் தன்மைகள் குறித்துத் திறனாய்கின்ற திறனையும், நவீனத் தமிழிலக்கியப் பிரதிகளிலிருந்து புதிதாக ஒரு கோட்பாட்டை உருவாக்குகிற ஆற்றலையும் அடைந்திருப்பர்.

TAM 2526 **நன்னூல் - சொல்** **5Hrs/ 5 cre**

நோக்கம்:

தமிழ்மொழியின் சொல்லிலக்கண இயல்புகளை விளக்கும் நன்னூல் சொல்லதிகாரத்தினை மாணவர்கள் பிழையின்றி அறிந்து, சமகால மொழிப்பயன்பாட்டைச் சரிவர செய்து கொள்ளும் வகையில், கற்பித்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்

1. தமிழ் இலக்கண நூல்களுள் நன்னூல், தொல்காப்பிய மரபு நிலை திரியா மாட்சிமையுடைய வழிநூல் என்பதையும் ஐந்திலக்கண மரபுக்கு மாற்றாக உருவானது என்பதையும் முந்து நூல்களை முற்றக் காணும் பண்பு மேலோங்கி இருப்பதையும் அடையாளங் காணும் திறன் பெற்றிருப்பர்.
2. இலக்கணச் செய்பாட்டில் சொற்கள் பெயராகவோ, வினையாகவோ, இடையாகவோ, உரியாகவோ மொழியில் தொழிற்படும் விவரணையைப் பயிற்சியுடன் அணுகிக் கண்டறியும் திறன் பெற்றிருப்பர்.
3. செய்யுள் வழக்கு உயர்ந்தோர் வழக்கு என்னும் மொழிக் கட்டுமானத்தில் புதைந்திருக்கும் சமூகம் சார்ந்த மொழியாடல்களைச் சமயச் சார்புடன் வெளிப்படுத்தும் இலக்கண அரசியலை நுட்பமாக அறிய முற்படுவர்.
4. மொழிபொழுங்கமைவில் சொல்லியல் குறித்த சிந்தனைகளை – கற்கும் போது ஏற்படும் இடர்பாடுகளைத் தகுந்த பயிற்சியின் மூலம் சிறந்த கற்றலுக்கு வழிநடத்தும் திறன் பெறுவதோடு பிற சொல்லிலக்கண நூல்களின் மாறுபட்ட சிந்தனை மரபை – நோட்பாட்டை உடையன என்பதையும் பொருத்திக் திறனறியும் ஆற்றல் பெற்றிருப்பர்.
5. தற்கால மொழியில் ஏற்பட்டிருக்கிற மாற்றங்களை உள்வாங்கிய நிலையில் சொல்லிலக்கண வாசிப்பில் புதிய அணுகுமுறைகளோடு, பிற சொல்லிலக்கண நூல்களின் மாறுபட்ட சிந்தனை மரபைப் பொருத்திக் திறனறியும் ஆற்றல் பெற்றிருப்பர்.

TAM 2428 **திரைப்படக்கலை** **4HRS/4Cre**

நோக்கம் : 20ஆம்நூற்றாண்டின் இணையற்ற கலையான திரைப்படக்கலையைச் சுவைத்தலும், இலக்கியத்திற்கும் திரைப்படத்துக்குமான உறவைப் புரிந்து கொள்ளலும், இலக்கியத்திப்பிரதிகளைத் திரைப்படங்களாக மாற்றும் நுணுக்கங்களைக் கற்றுக் கொள்ளலும், கற்றுக் கொண்டவைகளை மனதில் கொண்டு ஒரு சிறுகதையைத் திரைக்கதையாக்கிப் பரிசோதித்துப் பார்த்தலும் இப்பாடத்தின் நோக்கங்களாகும்.

கற்றலின் பயன்:

1. திரைப்படக்கலையின் மொழி, தனித்தன்மைகளை இனம்காணும் திறன் பெறுவர்.
2. இலக்கியத்திலிருந்து உருவான தேர்ந்தெடுக்கப்பட்ட திரைப்படங்களைப் பார்த்து ஒப்பிட்டுத் திரைக்கதை நுணுக்கங்களை புரிந்து கொள்வர்.
3. தமிழின் சிறந்த திரைக்கதையாக்கங்களை அலசி ஆராய்ந்து வகைப்படுத்திக் கொள்வர்.
4. தேர்ந்தெடுத்த சிறுகதைகளைத் திரைக்கதையாக்கிப் பயிற்சி பெறுவர்.
5. திரைக்கதையாக்கிய பிரதியைக் குறும்படமாகத் தயாரித்துத் தங்கள் திறன்களைப் பரிசோதித்துக் கொள்வர்.

TAM 2430 **சித்தர் நெறி** **5 Hrs /4 Cre**

நோக்கம் : சித்தர் பாடல்களை வகைப்படுத்தி அறிமுகப்படுத்துதல், அவற்றின்வழி சித்தர்களின் பன்முகப் பங்குறை அறிவை வெளிப்படுத்துதல், அவர்களின் ஒற்றை இலக்கான மெய்ப்பொருளை இனம் காட்டுதல், அதை அடையும் தடைகளைத் தவிர்க்க வேண்டுதல், சமூக இழிநிலைகளைச் சாடுதல், அன்னபிறவும் எடுத்துரைத்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. சித்தர் இலக்கியம் உருவான தோற்றச்சூழலை உள்வாங்கிக்கொள்வதோடு (Observe) வரையறுக்கவும் பயிற்சி பெற்றிருப்பர்.
2. சித்தர்களின் பன்முக அறிவுகளை அடையாளங் கண்டுகொள்ளும் (identity) திறனைப் பெற்றிருப்பர்.
3. உடலில் ஏற்படும் நோய்களின் தன்மையினைக் கண்டறியும் (Discover) திறனடைவர்.
4. மெய்ப்பொருளின் தன்மைகளை விவாதிக்கும் (Argue) திறனைப் பெற்றிருப்பர்.
5. சாதி, மத, இன மூடநம்பிக்கைகள், நாத்திகம் ஆகியவற்றிக்கிடையே உள்ள பொதுமைகளையும் இணக்கத்தையும் இணக்கமின்மைகளையும் தொகுத்து மதிப்பிடு (Evaluate) செய்யும் பயிற்சி பெற்றிருப்பர்.

TAM 3621 **நம்பியகப் பொருளும் புறப்பொருள் வெண்பாமாலையும்** **6 Hrs / 6Cre**

நோக்கம்: எழுத்திலக்கணத்தையும் சொல்லிலக்கணத்தையும் கற்ற மாணவர்கள் தொடர்ச்சியாக, அகம், புறம் என்னும் பொருளிலக்கணத்தைக் கற்பது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. அகத்திணையியல் - முப்பொருள் பாகுபாட்டினை உள்வாங்கிக் கொள்வதோடு வரையறுக்கவும் பயிற்சி பெற்றிருப்பர்.
2. களவியல் குறித்த செய்திகளை விளக்கும் திறனை அடைவர்.
3. வரைவியல், கற்பியல் குறித்த விளக்கங்களைக் கண்டறியும் திறனைப் பெற்றிருப்பர்.
4. வெட்சி, வஞ்சி, காஞ்சி திணைகள் பற்றி நிறைவான அறிவினைப் பெற்றிருப்பர்.
5. நொச்சி, உழிஞை, நும்பை, வாகை திணைகளை அடையாளங் கண்டறியும் திறனைப் பெற்றிருப்பர்.

TAM 3623 **சிற்றிலக்கியம்** **6 Hrs./6Cre**

நோக்கம்: பெருங்காப்பியத்தினின்று வேறுபடும் சிற்றிலக்கிய அமைப்பை அறிந்து கொள்ளுதலும் இலக்கிய வளர்ச்சியில் சிற்றிலக்கியம் பெறுமிடத்தை வெளிப்படுத்துதலும் உள்ளடக்கத்திற்கேற்ப அமைந்த வடிவமைப்பினைச் சுட்டிக்காட்டுதலும் சிற்றிலக்கியங்களின் தனித்தன்மை பற்றி அறிதலும் இப்பாடத்திட்டத்தின் நோக்கங்களாகும்.

கற்றலின் பயன்:

1. சிற்றிலக்கியம் உருவான தோற்றச்சூழலை உள்வாங்கிக் கொள்வதோடு வரையறுக்கவும் முறையாக வாசிக்கவும் பயிற்சி பெற்றிருப்பர்.
2. அகத்துறைக் கூறுகள் சிற்றிலக்கியங்களில் பாடுபொருளாக மாறுவதனை அடையாளங் கண்டுகொள்ளும் திறனைப் பெற்றிருப்பர்.
3. சங்க இலக்கிய புறத்துறைக்கூறுகள் காலங்கத்துப் பரணியில் பயின்று வருவதனை இனைத்து ஆராயும் திறனைப் பெற்றிருப்பர்.
4. நாட்டுப்புறக்கூறுகள் சிற்றிலக்கியங்களில் பயின்று வருவதனை ஒப்பிட்டு அதன் தன்மைகளை விவாதிக்கும் திறனைப் பெற்றிருப்பர்.
5. சிற்றிலக்கியங்களில் கிறிஸ்துவ, இஸ்லாமிய சமயக் கூறுகள் ஏற்றுக்கொள்ளப்பட்டுப் படைப்புகளாக மாறிய விதத்தினை அறியும் திறனைப் பெற்றிருப்பர்.

TAM 3625 இக்காலத் தமிழியல் **6 Hrs/6Cre**

நோக்கம்: எழுத்து, சொல் என்னும் இரு நிலைகளில் மரபிலக்கணத்தைக் கற்ற மாணவர்கள், அவ்விலக்கணக் கூறுகளை மொழியியல் நோக்கில் கற்பது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன் :

1. பல்வேறு மொழிகளின் வரலாற்றை இனங்கண்டிருப்பர்.
2. உயிரொலி, மெய்யொலிகளைச் சரியான பிறப்பிடத்தில் ஒலிக்கும் திறன் பெற்றிருப்பர்.
3. ஒலிக்கும் ஒலியனுக்குமான வேறுபாட்டினை இனங்காணவியலும்.
4. தமிழ் மொழி, பிற மொழிகளின் உருபன்களை நேடா விதியைக் கொண்டு பொருத்திப் பார்ப்பர்.
5. தமிழ் மொழியின் தொடர் அமைப்பினை அன்மைஉறுப்புக் கோட்பாட்டின் அடிப்படையில் மதிப்பீடு செய்ய முடியும்

TAM 3527 நாடகம் : அடிப்படை **5Hrs/5Cre**

நோக்கம்:

நாடகக் கலையின் தோற்றத்தையும் அதன் வளர்ச்சிப் படிநிலைகளையும் சுருக்கமாக அறிமுகப்படுத்துவது இப்பாடத்தின் நோக்கமாகும். மனித நாகரிகத்தில் நாடக்கலை உருக்கொண்ட விதத்தினையும், உலக அளவில் இன்று வரையிலான குறிப்பிடத் தகுந்த போக்கினையும் வகைகளையும் மேலோட்டமாக விளக்குவதாகவும் இப்பாடம் அமையும்.

கற்றலின் பயன்:

1. நாடகக்கலையின் தோற்றம் - வளர்ச்சி பற்றிய விளக்கங்களைப் பெறுவர்.
2. பழந்தமிழ் இலக்கியப் பதிவுகளிலிருந்து தமிழ்நாடகத்தின் இடத்தைக் கண்டுணர்வர்.
3. இசை நாடகம் தொடங்கித் திராவிட நாடகங்கள் வரையிலான நாடகவகைகளை ஒப்புமை வேற்றுமை அறிவர்.
4. உலக நாடக வகைகளின் சாரத்தைச் சுருக்கத்தைத் தெரிந்துகொள்வர்.
5. தமிழின் நவீன நாடகங்கள் மற்றுமான பரிசோதனை மதிப்பீடு செய்யும் திறன் பெறுவர்.

TAM 3209 போட்டித் தேர்வுத் தமிழ் **3 Hrs/2Cre**

நோக்கம்: அரசுப் பணி போட்டித் தேர்வு எழுதும் மாணவர்களுக்குப் பயன்படும் வகையில் கொள்குறி நிலையில் (objective type) கற்றலே இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. அரசு பணி போட்டி தேர்வு எழுதும் மாணவர்கள் தமிழ் இலக்கிய வரலாற்றினை உற்றுநோக்கி அறிந்திருப்பர்.

2. தமிழ் இலக்கிய நூல்கள், அடைமொழியால் குறிக்கப்படும் நூல்கள், நூலின் புகழ்பெற்ற மேற்கோள்களை மாணவர்கள் விளக்கும் திறன் பெற்றிருப்பர்

3. அலுவலக தமிழ் இலக்கணத்தை மாணவர்கள் கற்று அதன் வழி சொற்களைச் சீர் செய்தல் முறையைப் பயற்றுப் பொருத்திப்பார்க்கும் திறனைப் பெற்றிருப்பார்.

4. பிரித்தெழுதல், சேர்த்தெழுதல் எதிர்ச்சொல் பொருந்தாச் சொல் உவமைகேற்ப பொருளைக் கண்டறிதல் ஆகியவற்றை அறிந்து கொண்டிருப்பர் இலக்கணக் குறிப்பை அறிந்திருப்பர் ஒருமொழி, பலசொல், அறிதல் சொற்களை ஒழுங்குபடுத்திச் சொற்றொடரை கண்டறிதல், ஒலி வேறுபாடு அறிந்து சொற்களுக்கு ஏற்றபொருளைக் காணுதல் ஆகியவற்றை மாணவர்கள் மதிப்பீடு செய்யும் திறனைப் பெற்றிருப்பர்.

5. வாக்கியவகைகளை அறிந்து கொண்டிருப்பர் விடைகேற்ற வினாவை தேர்வுசெய்யும் முறையை அறிந்திருப்பர் சந்தி பிழை நீக்கம் புறமொழிச்சொற்கள் நீக்கம் ஒருமை பன்மை அறிதல் ஆங்கில சொற்களுக்கு இணையான தமிழ் சொற்களை தருதல் பொருத்துக சரியா தவறா என அறிதல் ஆகியவற்றை மாணவர்கள் மகிழ்சமைக்கும் திறனை பெற்றிருப்பர்.

TAM 3622 யாப்பும் அணியும் **6 Hrs/6Cre**

நோக்கம்: தமிழின் யாப்பு, அணி இலக்கண வகைகளை மாணவர்கள் கற்றுத்தெளிவது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. எழுத்து, அசைகளை உள்வாங்கிக் கொள்வதோடு முறையாக வாசிக்கவும் பயிற்சி பெற்றிருப்பர்.
2. சீர், தளை, அடிகளை அடையாளங்கண்டுகொள்ளும் திறனைப் பெற்றிருப்பர்.
3. பா, பாவகைகளை ஒப்பிட்டு அதன் தன்மைகளை விவாதிக்கும் திறனை அடைவர்.
4. அணியிலக்கணம் புதிய வடிவம் பெற்று வளர்ச்சியடைந்தன்மையைச் சான்றுகளுடன் மாணவர்கள் அறியும் திறனடைவர்.
5. பல்வேறு அணிகளுக்கிடையே உள்ள பொதுமைகள், வேறுபாடுகள் ஆகியனவற்றைத் தொகுத்து மதிப்பிடு செய்யும் பயிற்சி பெற்றிருப்பர்.

TAM 3624 காப்பியம் **6Hrs/6cre**

நோக்கம்: தமிழிலக்கியப் பரப்பில் நீண்ட செய்யுள் வழியே கதை கூறும் காப்பிய மரபினை அறிமுகம் செய்வதும், காப்பியங்கள் தோன்றிய பின்னணியில் அவற்றின் தனித்தன்மைகளை இனங்காணுதலும், இலக்கிய வகைகளில் காப்பியம் பெறுமிடத்தைப் புலப்படுத்துதலும், காப்பியக் கொள்கைகளைக் கண்டறிதலும் இப்பாடத்திட்டத்தின் நோக்கங்களாகும்.

கற்றலின் பயன்:

1. காப்பிய இலக்கிய உருவாக்கம், அதன் வரையறை மற்றும் அதன் வகைகளை அறிந்துகொள்ளும் திறனைப் பெற்றிருப்பர்.
2. சிலப்பதிகாரம் பெருங்காப்பிய மரபிற்குள் வருவதனை அடையாளங் காணுவதோடு அதை விளக்கும் திறனையும் பெற்றிருப்பர்.
3. காப்பிய இலக்கியம் அற இலக்கியங்களிலிருந்து மாறுபடுவதற்கான காரணங்களைத் தொடர்புபடுத்தி ஆராய்ந்து அறிந்துகொள்ளும் திறனைப் பெற்றிருப்பர்.
4. புராண இதிகாச மரபுகளிலிருந்து புதிய காப்பிய இலக்கியம் உருவான விதத்தினை அறியும் திறனைப் பெற்றிருப்பர்.
5. மரபான காப்பிய இலக்கியங்களை உள்வாங்கிப் பின்னால் எழுந்த கிறிஸ்துவ, இஸ்லாமிய காப்பியங்களை முறையாக இணைத்துப் புரிந்துகொள்ளும் திறனைப் பெற்றிருப்பர்.

TAM 3626 இலக்கியக் கோட்பாடு **6 Hrs / 6Cre**

நோக்கம்: பழந்தமிழ் இலக்கியக் கோட்பாடுகள் மற்றும் மேலை இலக்கியக் கோட்பாடுகளின் அடிப்படைகளை மாணவர்களுக்கு அறிமுகம் செய்து, அவற்றைத் தமிழ்ச் சூழலுக்குத் தக்கவாறு பயன்படுத்தும் திறனை வளர்த்தல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. இலக்கியத்தைப் பொதுவாக இரசிக்கும் நிலையிலிருந்து மாறி, இலக்கியக் கோட்பாடுகளின் வழி இலக்கியத்தைத் தெளிவாக அணுகி அதனை அடையாளப்படுத்தி இரசிக்கும் திறனைப் பெற்றிருப்பர்.
2. மனித மாண்புகளை அறியும் திறன் பெற்றிருப்பர்.
3. விளிம்பு நிலை மனிதர்கள் இலக்கியத்திற்குள் இடம் பெறுவதையும், தங்களுக்கான உரிமையை வெளிப்படுத்துவதையும் இனங்காணும் ஆற்றல் பெற்றிருப்பர்.
4. காலனியத்தின் கொடுகள் தமிழ்ச் சமூகத்தில் அழுந்தப் பதிந்திருப்பதை இலக்கியங்களின் துணை கொண்டு அறியும் ஆற்றல் பெற்றிருப்பர்.
5. இலக்கியக் கோட்பாடுகளுக்கு இடையே உள்ள ஒற்றுமையையும் வேற்றுமையையும் அறிந்து, அவற்றை இலக்கியங்களில் பொருத்திப் பார்க்கும் திறனாய்வுத் திறனையும் பெற்றிருப்பர்.

TAM 3528 நாடகம் : அரங்கியற்கூறுகள் **5Hrs/5Cre**

நோக்கம்:

நாடகம் அடிப்படைக் கூறுகள் எனும் பாடத்தின் தொடர்ச்சியாக அமையும் இப்பாடம், நாடகம் தயாரிப்பதற்கான பயிற்சிகளைக் கற்று குறுநாடகங்களைத் தயாரிப்பதை நோக்கமாகக் கொள்ளும்.

கற்றலின் பயன்:

1. நடிகனாக தன் உடல் மற்றும் குரலின் சாத்தியப்பாடுகளை அடையாளம் கண்டுகொள்வர்.
2. மேடை – அரங்கு – அரங்கப்பொருள் ஆகியவனவற்றைக் கையாளும் திறனை வளர்த்துக் கொள்வர்.
3. ஒரு பிரதியை மேடை நிகழ்வாக உருமாற்றும் நுட்பங்களைப் பெறுவர்.
4. நாடக அரங்கியற் தொழில்நுட்பங்களைப் பொருத்தமாக இணைத்துப்பார்க்கும் திறன்பெறுவர்.
5. முழுமையான ஒரு நாடகத்தை நிகழ்த்தும் செயல் திறனைப் பெறுவர்.

TAM 3210 தமிழ்ச் சமுதாய வரலாறு **3Hrs/2Cr**

நோக்கம் : தமிழக வரலாற்றுப் போக்கில் முக்கியத்துவம் வாய்ந்தனவாக கருதப் பெறும் சமூக நிகழ்வுகளையும் எண்ணங்களையும் அறிவதோடு, அவற்றால் சமூகத்தில் ஏற்பட்ட வளர்ச்சிப் படிநிலைகளை அறிவது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. மனித இனம் தோற்றம் பெற்ற பிறகு, நாகரிக வாழ்வின் கூறுகளை அடைந்து வாய்மொழி மரபிலிருந்து மெல்லமெல்ல இலக்கியங்கள் என்ற நிலையை அடைந்த பின்புலத்தை வரையறுத்து இனங்காணும் திறன் பெற்றிருப்பர்.
2. சமூகம் இயற்கை வழிபாட்டிலிருந்து உருவ – தத்துவ வழிபாட்டிற்கு மாறிவந்தமைக்கு இணையாகச் சங்க இலக்கியத்தில் தொடங்கி அற இலக்கியங்கள் வழியாக சமண – பௌத்த – வைதீக மரபுகளின் இலக்கியங்கள் வரை நீண்ட மரபுகளை ஒப்பிட்டு ஒற்றுமை வேற்றுமைகளை அறிகிற திறன்களை எய்திருப்பர்.
3. இனக்குழு வாழ்விலிருந்து நிலவுடைமைப் போக்கு சமூகம் மாறிவிட்டநிலையில் அரசருவாக்கம் என்பது பல்லவர் - சோழர் - நாயக்கர் என்றமைந்து வந்தவற்றை கண்டறிந்து, அவை இலக்கிய உருவாக்கத்தில் செலுத்திய கருத்தாம்சங்களைப் பொருத்திப் பார்க்கிற திறன்பெற்றிருப்பர்.
4. ஐரோப்பியர்காலத்தில் தமிழ்ச் சமூகம் முற்றிலும் வேறுபடுகிற போக்கையும் அவை ஏற்படுத்திய மாற்றங்களையும் பகுத்தாராய்கிற திறன்களைப் பெற்றிருப்பர்.
5. தமிழ்ச் சமூகம் அன்றுவரை வந்துநிற்கும் வளர்ச்சிப்போக்கை மதிப்பிட்டு, அவற்றை திறனாய்வுக்கு உட்படுத்துகிற ஆற்றல்களை எய்தியிருப்பர்.

TAM 3200 **சுற்றுச்சூழலும் தமிழ் இலக்கியமும்** **4Hrs/2cre**

நோக்கம்: சுற்றுப்புறச் சூழலியலை அறிமுகப்படுத்தி, அதன் அடிப்படைகளைப் பன்முகக் கோட்பாடுகள் மற்றும் பல்வேறு இலக்கியப் பதிவுகளின் வழியாக விளங்கிக் கொள்ளல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. சுற்றுச்சூழல் கல்வியின் அவசியத்தை மாணவர் உற்றுநோக்குவதன் மூலம் சுற்றுச்சூழலை மீட்டுருவாக்கத் திறன் பெறுவர்

2. பண்டைய தமிழர்கள் இயற்கையோடு வாழ்ந்த முறைமையினைச் சங்க இலக்கியப் பாடல்களின் மூலம் விளக்கும் திறன் பெறுவர்

3. தற்காலத் தமிழ் இலக்கியங்களில் இழையோடிருக்கும் சூழல் சார்ந்த கருத்துக்களைப் பகுப்பாய்வு செய்யும் திறன் பெற்றிருப்பர்.

4. சூழலியல் சார்ந்த கோட்பாடுகளையும் படைப்புகளையும் மாணவர்கள் மதிப்பீடு செய்வர்

5. சூழலியல் சார்ந்த படைப்புகளை உருவாக்குவதோடு மட்டுமல்லாமல் பழைய சமுதாயத்தை இயற்கை சார்ந்ததாக மறுசீரமைக்கும் சிந்தனை பெற்றிருப்பர்

Department of Medical laboratory Technology

Course Outcomes – B.Voc Medical laboratory Technology

Human Anatomy, Physiology and Clinical Pathology

At the conclusion of this course, student will be able to:

i. Locate organs and systems in human body
ii. Describe the morphology of organs and systems in human body
iii. Explain the functions of organs and systems in human body
iv. Discuss the importance of examining body fluids.
v. Identify the pathophysiology of organs and systems in clinical conditions and disorders

Fundamentals of Medical Laboratory Technology

At the conclusion of this course student will be able to:

i. Describe the importance of laboratory profession in health sectors.
ii. Explain the general safety regulations governing clinical laboratories.
iii. Discuss about the activities in various sections in the laboratory.
iv. Compare and rate the functions of older and modern instruments.
v. Identify methods in safety disposal and sterilization of biohazards

Lab – I

At the conclusion of this course, student will be able to:

i. Identify various clinical samples, equipment, chemicals and instruments used in clinical laboratory.

ii. Reason sample requirements, practice sample collection, preservation and storage.
iii. Process samples for physical, chemical and microscopic examination on clinical samples.
iv. Handle reagents and use important laboratory instruments in routine laboratory.
v. Perform laboratory investigations on urine, stool, sputum and semen samples.

Hematology & Blood Bank

At the conclusion of this course, student will be able to

i. Describe the principle, requirements, procedure and interpretation of routine hematology.
ii. Define the morphology of common blood parasites and explain coagulation mechanism.
iii. Discuss about the formation of major blood groups and types. Define red cell antigen, their antibodies and describe their characters.
iv. Explain the formation of major blood groups and types. Define red cell antigen, their antibodies and describe their characters.
v. Compare and analyze the laboratory diagnosis of hemolytic diseases in new born babies, hemoglobinopathies

Clinical Biochemistry & Microbiology

At the conclusion of this course, student will be able to:

i. Explain the contribution of biochemistry in health. Discuss the significance of Diabetic profile, lipid and renal profile.
ii. Discuss methods of estimating clinically important compounds, enzymes and electrolytes.
iii. Classify the micro organisms and explain the methods identifying them in the laboratory.
iv. Compare morphology, pathogenesity and identification methods of fungi, parasites.
v. Analyze the immunity to various viral infections and discuss about the serological methods of identifying antibodies in infections.

Lab- II

At the conclusion of this course, student will be able to:

i. Demonstrate qualitative tests like Widal, VDRL,HIV Tri-Dot, HBsAg, HCV, Dengue Ns1, IgG &IgM; R.A factor, ASO and CRP
ii. Carry out smear making, staining, inoculation techniques and biochemical identification of bacteria.
iii. Demonstrate routine hematological tests like Hb, TLC,DLC, ESR, Platelet count, RBC count, PCV, Clotting Time, Bleeding Time etc.
iv. Identify blood groups and check the compatibility of donor blood to the patient.
v. Run routine biochemical tests in end- point and kinetic methods using semi auto biochemistry analyzers.

Immunohematology & Transfusion Medicine

At the end of this course, student will be able to:

i. Explain the historic context in the discovery of blood group systems in man and the formation of red cell antigens and their antibodies
ii. Compare the characteristic features of Rh antigen, HDN diseases. Explain the laboratory investigations of HDN.
iii. Enlist criteria for selecting donor for blood transfusion. Evaluate transfusion reaction.
iv. Describe the methods of preparing blood products for transfusion in various clinical conditions.
v. Discuss the tissue compatibility for organ transplantation. Explain the role and detection of human leukocyte antibodies.

Biomedical Techniques, Automation and Quality Control Programme

At the end of this course, student will be able to:

i. Explain the use of advanced immunotechnologies like Chromatography, ELISA, CLIA, MEIA, RIA in diagnosis.
ii. Describe the mechanism and handling of automated instruments in the laboratory.
iii. Discuss and rate the importance of biochemical analyzers in health service. Explain various principles used in advanced technology
iv. Explain the mechanism of ECG and its patterns. Explain the use of Pacemaker, oximetry, cardiography, doppler scan etc.
v. Define quality control terminologies and method of running internal and external quality control program in laboratory.

Lab – III

At the end of this course student will be able to:

i. Demonstrate blood grouping and Typing methods ,sub grouping, and Bombay group. Perform Coombs tests and Cross matches.
ii. Select donor, screen donor blood for infectious diseases and bleed donor for blood transfusion, Investigate blood transfusion reactions.
iii. Estimate various enzymes like ALT,AST ,ALP and serum Amylase and cardiac markers.
iv. Demonstrate the method of using Cell counters, Electrolyte analyzers, Fully automated biochemistry analyzers.
v. Run internal and external Quality control programme for hematology, biochemistry and Utilize other instruments used in physician chamber.

Body Fluids Analysis

At the end of this course student will be able to:

i. Explain the movement, functions, physical, chemical and cellular content of cavity fluids in normal and abnormal conditions.
ii. Discuss the significance of examining C.S.F, its collection, processing methods, relate and compile reports for diagnosis.

iii. Describe the formation of abnormal fluid and Patho-physiology of body cavities.
iv. Relate the laboratory finding for the diagnosis of joint diseases like Rheumatoid arthritis, Osteoarthritis and gout etc.
v. Discuss about the need of examining amniotic fluid for safe delivery of baby and mother health.

Histopathology & Cytology

At the end of this course student will be able to:

i. Explain cell, tissue, organelles and the mechanism and use of instruments used in the processing of tissue.
ii. Describe the various process of treating tissue before section cutting for microscopic examination.
iii. Discuss the use of other advanced technologies like Freezing microtome fixing and staining techniques.
iv. Prepare for processing fluids for cytotechniques and staining methods. Explain FNAC and guided FNAC procedures.
v. Identify the use of various fixatives for histopathological and cytological works

Lab – IV

At the end of this course student will be able to:

i. Use and handle histopathology instruments. Assist in the collection of cavity fluids with Physician, Process and prepare smears for cell counts, bacteriological studies etc. Carry out decalcification, processing the tissue for paraffin section.
ii. Prepare knives using honing and stropping.
iii. Prepare smears, fixatives, stains for Cavity fluids (CSF, Pleural,Peritoneal,and Pericardial). And FNAC smears.
iv. Fix, stain and examine smears for Total and differential cell counts and bacteria.
v. Analyze glucose, protein, and albumin, chloride in C.S.F and cavity fluids using semi automated biochemistry and electrolyte analyzers

Environmental Studies

Upon completion of this course, the student will be able to:

i. Discuss the terminology commonly used in environmental science and to identify Renewable and non renewable resources and its proper usage and conservation
ii. Explain the concept , structure, function of ecosystem and to analyze the interaction of organism at different ecosystem
iii. Evaluate the adverse human impact on abiotic and biotic community and sustainable strategies to mitigate the impact
iv. Create knowledge on biodiversity and its conservation and utilize advances in environmental science to resolve issues and anticipate implications.
v. Assess the consequences of environmental disasters and its remedy

Geriatric Care

At the end of this course student will be able to:

i. Explain aging and define aging in urban and rural context with psychoanalysis.
ii. Discuss about the personality, social and psychological changes, living arrangements and gender discrepancies in elders.
iii. Relate and rate diet related degenerative changes in elders and their physical activities.
iv. Outline various kinds of physical and mental disorders in elders and explain how they can come out from such conditions.
v. Discuss health risk in old age, intervention methods in acute health crisis. Critique old age care initiative policies and programmes.

Parasitology

At the end of this course student will be able to:

i. Explain and classify parasites, host and discuss the distribution of parasites in clinical samples and their pathogenesities.
ii. Compare the morphology, life cycle of blood and intestinal parasites and their laboratory findings.
iii. Comment on blood, muscle and intestinal nematodes its morphology, life cycle and their pathogenesity.
iv. Describe the morphology of eggs, segments, scolexes of tape worm and their pathogenesity.
v. Discuss about the distribution of flat worm infections and their morphology and pathogenesity.

Lab – V

At the end of this course student will be able to:

i. Identify the mental, physical, and social and risk behaviors in elders. Formulate diet and agenda for their healthy life.
ii. Assist, programme and advocate for the cause of elders with socio economic and spiritual values.
iii. Identify adult worms. Prepare smears and perform microscopy for identifying ova, cysts, flagellates, larva, scolex, segments..
iv. Prepare smears and perform staining techniques for identifying malarial parasites, microfilaria and Leishmania specie.
v. Design and demonstrate awareness programmes for prevention and control of parasitic infections.

Special Hematology

At the end of this course student will be able to:

i. Explain the formation and development of blood cells in normal and abnormal conditions.

ii. Discuss about the various staining technique in the diagnosis of anemia, leukemia, abnormal red and white blood cells.
iii. Describe the formation of abnormal hemoglobins and their screening techniques.
iv. Explain the use of biomolecular techniques in identifying the presence of abnormal hemoglobins.
v. Analyze the laboratory expressions and formulate genotype of patients with Hemoglobinopathy

Metabolic Disorders and Molecular Diagnosis

At the end of this course student will be able to:

i. Explain the signs and symptoms of various metabolic diseases and relate laboratory findings.
ii. Discuss about the clinical symptoms and laboratory investigations of cardiovascular diseases.
iii. Predict the use of cardiac markers in the diagnosis and assessment of treatment.
iv. Describe the use of tumor markers in the diagnosis of male and female reproductive systems.
v. Explain the use of methods of various techniques in the field of molecular Technology

Lab - VI

At the end of this course student will be able to:

i. Assist physician in bone marrow aspiration and prepare smears for microscopic examination.
ii. Stain and scan bone marrow smears under microscope for assessing cellularity bone marrow. Identify immature, abnormal cells.
iii. Examine the stained blood smear under microscope and give impression for anemias, leukemia's and other hematological disorders.
iv. Perform certain biomarkers and biochemical tests in the diagnosis of heart diseases.
v. Carryout certain molecular techniques in the assessment of cancers of male and female reproductive organs

Department of Food Processing & Preservation

Course Outcomes – B.Voc Food Processing & Preservation

Fundamentals of Food Science

Upon completion of this course, the students will be able to:

i. Outline the basics of food science.
ii. Discuss the processing of cereals and pulses.
iii. Assess the different processing methods for milk and milk products.
iv. Explain the processing of meat, poultry and fish.
v. Analyze on the various compounds of sugar cookery

Food Processing and Preservation- I

Upon completion of this course, the student will be able to:

i. Apply the principles and methods involved in the processing of different foods and discuss the processing of cereals and pulses.
ii. Compare various millet processing techniques.
iii. Discuss pulse processing and preservation techniques.
iv. Identify oil seed processing and preservation.
v. Explain spice processing and preservation techniques.

Lab in Fundamentals of Food Science

Upon completion of this course, the student will be able to:

i. Apply various techniques involved in cereals and pulses Compare various millet processing techniques
ii. Prepare various milk products
iii. Formulate various nutritive products
iv. Prepare sweets with refined sugar
v. Evaluate different food products

Food Processing and Preservation- II

Upon completion of this course, the student will be able to:

i. Explain different processing and preservation of fruits and vegetables and prepare various milk products.
ii. Discuss various processing and preservation techniques.
iii. Identify novel technologies in the processing of fleshy foods.
iv. Identify high end techniques in sea food processing and preservation.
v. Compare various food processing technology.

Food Packaging

Upon completion of this course, the student will be able to:

i. To outline the various properties of food packaging materials.
ii. To identify suitable packaging material for different food substances.
iii. To discuss the packaging systems and methods.
iv. To compile knowledge in packaging aspects of fresh and processed foods.
v. To rate the food quality changes in packaged foods.

Lab in Food Processing and Preservation

Upon completion of this course, the student will be able to:

i. To develop the skill to analyze the quality like sugar such as jam, jelly etc.
ii. To explain the fermentation process such as wine, beer.
iii. To analyze technologies in food preservation.

iv. To discuss preservation of foods by salt and acid.
v. To evaluate the novel technologies in food preservation.

Dairy Processing

Upon completion of this course, the student will be able to:

i. Discuss the components in dairy processing
ii. Prepare various milk products.
iii. Assess the different methods in milk processing.
iv. Demonstrate the preparation of different milk products.
v. Identify the different techniques of packaging and storage.

Food Analysis

Upon completion of this course, the student will be able to:

i. Formulate strategies in sensory analysis.
ii. Assess quality attributes of food.
iii. Compare different additives on food and its uses.
iv. Apply instrumentation techniques in food analysis.
v. Compile the laws related with food.

Lab in Dairy and Dairy Products

Upon completion of this course, the student will be able to:

i. Evaluate the components in milk
ii. Analyse microbial status of milk
iii. Formulate methods in the preparation of milk products
iv. Compare the quality of milk
v. Assess the physical properties of milk

Processing and Preservation of Meat and Marine Products

Upon completion of this course, the student will be able to:

i. Explain the processing of meat and its by-products
ii. Compare various fish processing and storage methods to extend the shelf life
iii. Discuss and understand the preservation strategies of meat
iv. Apply the techniques of egg preservation in various atmospheric conditions
v. Assess different techniques of packaging and storage of meat, poultry and fish

Food Safety

Upon completion of this course, the student will be able to:

i. Outline food safety regulations
ii. Discuss the food sanitations & safety functions
iii. Compare various food adulterants & safety issues
iv. Explain the quality control practices
v. Identify hygienic & sanitary practices

Lab in Processing of Meat and Marine Products

Upon completion of this course, the student will be able to:

i. Evaluate the techniques in processing of meat
ii. Demonstrate methods involved in fish processing
iii. Compare different processing methods of egg
iv. Analyse the preservation strategies of meat
v. Design techniques of packaging and storage

Environmental Studies

Upon completion of this course, the student will be able to:

i. Discuss the terminology commonly used in environmental science and to identify renewable and non renewable resources and its proper usage and conservation
ii. Explain the concept , structure, function of ecosystem and to analyze the interaction of organism at different ecosystem
iii. Evaluate the adverse human impact on abiotic and biotic community and sustainable strategies to mitigate the impact
iv. Create knowledge on biodiversity and its conservation and utilize advances in environmental science to resolve issues and anticipate implications.
v. Assess the consequences of environmental disasters and its remedy

Bakery and Confectionery

Upon completion of this course, the student will be able to:

i. Outline the various properties of raw materials in bakery and confectionery industries
ii. Discuss methods involved in manufacture of bakery products
iii. Compile technical knowledge in bakery
iv. Explain the physical factors of dough
v. Rate the characteristics of finished bakery and confectionery finished products

Food Service Management

Upon completion of this course, the student will be able to:

i. Outline the role of different food service institutions.
ii. Design layout for catering establishment.
iii. Formulate and standardize different recipes.
iv. Explain usage of equipment in food service institution.
v. Discuss the importance of management in food service outlet.

Lab in Bakery, Confectionery and Food Service Management

Upon completion of this course, the student will be able to:

i. Outline the role of different ingredients in baking.
ii. Acquire skills in the preparation of Bakery & Confectionary products.
iii. Design preparation methods to finishing techniques.

iv. Demonstrate an understanding of human resource management, financial management, and quality control.
v. Acquire skills in the preparation of food.

Food Adulteration

Upon completion of this course, the student will be able to:

i. Discuss different food adulterations
ii. Analyze adulterants in food
iii. Discuss the role of additives as adulterants
iv. Explain the laws and regulations related to food adulteration
v. Identify various certification systems.

Food Quality Testing & Evaluation

Upon completion of this course, the student will be able to:

i. Discuss the different quality attributes of food
ii. Explain the importance of colour& texture in food
iii. Discuss about the microbial aspects and methods of preventing food contamination.
iv. Explain the application of quality assurance in food industry
v. Use quality assurance technique operations in food & beverage industry

Lab in Adulteration, Food quality testing and evaluation

Upon completion of this course, the student will be able to:

i. Demonstrate technical knowledge in flour analysis.
ii. Use the techniques in setting of food outlet.
iii. Formulate plans relevant to food and service management.
iv. Compile technical knowledge of hygiene and maintenance of equipment
v. Discuss about the microbial aspects and methods

Department of Aquaculture

Course Outcomes – B.Voc Aquaculture

Basics of Aquaculture

At the end of the course students will be able to

i. Understand the basic needs of proteins food.
ii. Explain the types of aquaculture practices.
iii. Differentiate different types of fishes and invertebrates.
iv. Describe the need for water quality management and nutrient requirement.
v. Diagnose the aquatic pathogens and their control measures.

Fin fish and Shell fish culture

At the end of the course students will be able to

i. Explain the designing and managing fish pond.
ii. Describe the procedure adopted for composite and integrated fish farming.
iii. Understand the techniques involved freshwater prawn culture.
iv. Design cages, pen for fish cultivation.

Aquaculture Lab – I

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

i. Identify the commercially important fishes.
ii. Analyze the gut content, fecundity and GSI in fishes.
iii. Examine the water quality parameters.
iv. Perform hypophysation and learn induced breeding techniques

Ornamental fish culture

At the end of this course student will able to

i. Explain the methodology to keep an aquarium
ii. Describe the characters of ornamental fishes and plants
iii. Enlist the various feed and their impact on growth
iv. Understand the methods of rearing marine ornamental fish and invertebrates
v. Explain the diagnostic methods for ornamental fish diseases

Shrimp farming

At the end of session students will be able to

i. Explain the stages of growth In shrimps
ii. Describe different breeding techniques
iii. Understand the need to improve water quality during culture
iv. Explain the feeding schedule and diseases diagnosis in shrimp culture

Aquaculture Lab – II

At the end of the course students will able to

i. Identify commercial ornamental fish and shrimp
ii. Prepare feed with natural food ingredients
iii. Analyze water quality parameters
iv. Identify the diseases symptoms in shrimps

Fish Seed production

At the end of the course students will be able to

i. Explain the reproductive strategies in fishes
ii. Describe the artificial breeding techniques and problems
iii. Adopt themselves for proper transportation of live stock

Live feed production

At the end of the session students will be able to

i. Explain the importance of life feed in aquaculture
ii. Describe the culture techniques for diatoms, rotifer, Artemia and daphnia.
iii. Emphasis the need for green algae and spirulina as supplementary feed.

Aquaculture Lab – III

At the end of the session students will be able to

i. Analyze the sexual maturity in fish sample
ii. Collect wild seeds from natural habit
iii. Prepare culture media for live feed culture
iv. Gain experience through visiting nearby aqua forms

Fish Feed Technology

At the end of the session students will be able to

i. Analyze the nutritional requirement for normal fish growth
ii. Explain the composition commercial feed ingredient
iii. Calculate the feeding ration to obtain a good FCR

Post harvest technology

At the end of the session students will be able to

i. Describe the various value added products from fish
ii. Prepare various fishery products with their recipes
iii. Explain various fishery by products

Aquaculture Lab – IV

At the end of the session students will be able to

i. Formulate efficient fish feed
ii. Indentify the brooders maturity
iii. Prepare different fishery recipes
iv. Gain knowledge by visiting nearby aqua farm and fish product outlets

Environmental Studies

Upon completion of this course, the student will be able to:

i. Discuss the terminology commonly used in environmental science and to identify renewable and non renewable resources and its proper usage and conservation
ii. Explain the concept , structure, function of ecosystem and to analyze the interaction of organism at different ecosystem
iii. Evaluate the adverse human impact on abiotic and biotic community and sustainable strategies to mitigate the impact

iv. Create knowledge on biodiversity and its conservation and utilize advances in environmental science to resolve issues and anticipate implications.
v. Assess the consequences of environmental disasters and its remedy

Fish microbiology and biotechnology

At the end of the course students will be able to

i. Describe the scope of biotechnology in fisheries and fish feed.
ii. Understand the types of probiotics, bioactive compounds used in aquaculture
iii. Explain the role of microbes in fish food
iv. Gain the knowledge from principles of fish preservation and processing

Intensive and integrated fish farming

At the end of the course students will be able to

i. Explain the status and future for intensive fish forming
ii. Describe the commercially important fishes, water quality maintenance and monosex seeds.
iii. Understand the agri based integrated, poultry and duck cum fish culture practices

Lab-V

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

i. Identify the procedure for isolating and preparing chromosomes in fishes
ii. Study of pathogenic microbes involved in fish spoilage
iii. Gain knowledge by visiting nearby tilapia and catfish breeding form
iv. Prepare feed for catfish and tilapia

Mariculture

At the end of the course students will be able to

i. Outline the different mariculture practices and their demand
ii. Explain the procedure commercial production of finfish, crustaceans and molluscs
iii. Describe the techniques involved in seaweed culture, agar, algin and carrageen
iv. species cultivation.
v. Learn to plan and manage the mariculture practices.

Aquatic animals health management

At the end of the course students will be able to

i. Describe the immune mechanism involved against infectious diseases
ii. Explain the character, diagnosis, prevention and treatment for parasitic, mycotic, bacterial and viral infection.
iii. Analyse the diagnosis of nutritional deficiency diseases and the health management techniques.

Mariculture and Aquatic animals and health management

At the end of the course students will be able to

i. Analyze the infected part of fish by using histopathological studies
ii. Estimate the dose of chemicals and drugs for treating common diseases
iii. Identification of cultivatable seaweeds, marine finfish and shellfish
iv. Gain knowledge through visiting coastal aquarium and assessing the seed Quality.