CSV 3402Database management system (4h/wk) (4Cr)

This course is intended to familiarize the students with the concept and significance ofdatabase maintenance and management. Moreover, the course would orient the studentsabout the various aspects involved need for systematic retention of database involved intheir respective vocations.

Course outcomes

At the end of the course the student will be able to:

i. Identify the database approach and the database 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.

Unit I: Databases and database users: Introduction – Characteristics of the database approach – Advantages of using the DBMS approach – A brief history of Database Applications.

UnitII: Database System Concepts and Architechture – Data Models, Schemas and Instances.

UnitIII: Database Languages and Interfaces: The Database System Environment – Centralized and Client / Server Architecture for DBMSs – Classification of Database Management System.

UnitIV: Relational Model Concepts: Relational model Constraints and Relational Database Schemas, Update Operation, Transaction and dealing with Constraints violations.

UnitV: Database Recovery Concepts - Caching(Buffering) of Disk blocks – Write-ahead Logging, Steal / No-Steal and Force / No-Force - Checkpoints in the System Log and Fuzzy Check pointing – Transaction rollback

References

1. "Database Management System" – Raghu Ramakrishnan and Johannes Gehrke – 3rd edition, McGraw-Hill, 2003.
2. "DBMS a Practical Approach", E.R.Ragiv Chopra, S Chand Publications.

CSV 3401 Information Communication Technology (4hr/wk) (4Cr)

This course aims at enabling the student to know the role of ICT resources in modern applications and presenting its environment. This course also makes a student familiar with Web environment and its applications in providing utilization and communication of Information.

Course outcomes:

At the end of the course the student will be able to:

i. Explain the progress of information and communication technology and their role in modern world.

ii. Identify the difference between Operating Systems and application software.
iii. Examine different kinds of software and their working.
iv. Utilize computer and similar electronic devices suitably for data processing.
v. Use Internet safely and explore different kinds of information available on the Internet.

Unit I: Accessing the web –Introduction to the browser and browsing Accessing the web II – Introduction to the web familiarity with IOT environment – Connections and Connectors – Inputting in Indian Language – Font and Keyboard

Unit II: Creating with ICT – Handling Text – Handling Data – Handling Media – Operating Systems and it Requirement – Bringing together Hardware and Software

Unit III: Internet t access Information – Exploring Web resources – ICT in class room

Unit IV: Hardware and Software – Assistive Technologies – Working with Data I – Exploring spread sheet- Working with Data II – Exploring with spread sheet.

UnitV: E-mail and Web based Forums –Transacting through the web – Exploring E-commerce applications – Execution and peer evaluations –Evaluation and portable submission.

References

1. Brilliant Ideas for using ICT in the inclusive class room, II Edition, Sally McKeown, Angela McGlashon
2. Introducing Computing: A guide for teachers Edited by Lawrence Williams.

EVS 3401 Environmental Studies (4h/wk) (4Cr)

This course is designed to develop environmental awareness to the students. It deals with the natural resources, ecosystems and the impact of human activity on them. This course also imparts the biodiversity and its conservation. It also sensitizes the students on the environmental issues and abatement of pollution and gives suggestion for sustenance.

Course Outcomes

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

1. **Introduction to environmental studies:** Concept and Scope – importance of sustainability and sustainable development. The Atmosphere, the Hydrosphere, the Lithosphere and the Biosphere. Concept of Renewable and Non-renewable resources:

2. **Ecology and Ecosystems:**Concept of ecology and ecosystem, Structure and function of ecosystem; Energy flow in an ecosystem; food chains, food webs; Basic concept of population and community ecology; ecological succession. Characteristic features of the following- Forest ecosystem - Grassland ecosystem - Desert ecosystem - Aquatic ecosystems (ponds, lakes, rivers, oceans)

3. **Environmental Pollution:**Pollution -Definition - Causes, effects and control measures of
   - Air pollution - Water pollution -Soil pollution - Marine pollution -.Noise pollution - Thermal pollution - Nuclear hazards . Solid waste Management: Causes, effects and control measures. Role of an individual in prevention of pollution. Natural Disasters and their Management: floods, earthquake, cyclone and landslides.

4. **Biodiversity and its conservation:**Definition: genetic, species and ecosystem diversity. Biogeographical classification of India- values Biodiversity at global, National and local levels. India as a mega-diversity nation - Hot-spots of biodiversity. Endangered and endemic species of India. Threats to biodiversity: habitat loss, poaching of wildlife, manwildlife conflicts.. Conservation of biodiversity: In-situ

and Ex-situ method of conservation.

5. **Social Issues and the Environment:**Water conservation- rain water harvesting, watershed management. Wasteland reclamation. Afforestation. Management and Wildlife conservation. Climate change - Greenhouse effect - global warming - acid rain, ozone

layer depletion. Environmental Laws : Environment Protection Act, 1986 ; The Water Act, 1974, The Air Act, 1981 and The Wildlife (Protection) Act, 1972 , Forest Conservation Act .Issues involved in enforcement of environmental legislation. Public awareness.

LSV 3401 Entrepreneurship Development (4h/wk) (4 Cr)

To give an overview about the real concepts of entrepreneurship and to impart knowledge about the various sources for a small business and hence motivate the students to become a job providers.

Course Outcomes

Upon completion of this course, the student will be able to:

i. Cite the meaning of entrepreneurship and identify the role of entrepreneurs.
ii. Identify different types of entrepreneurs and the problems faced by them
iii. Identify the various sources of small business and capable of starting a business by creating own business plan.
iv. Identify the various institutes and their functions that support entrepreneurs
v. Identify and utilize the various incentives available for small scale business.

1. **Entrepreneur:** Definition - Characteristics - Functions - Competencies - Entrepreneur vs Entrepreneurship - Role of Entrepreneur in Economic Development.

2. **Types of Entrepreneurs:** Innovative - Adaptive - Fabian - Drone; Entrepreneur vs Intrpreneur, Copreneur; Women entrepreneur - Types - Problems.

3. **Strating a small Business:** Steps; **Project Report:** Contents – Importance.

4. **Institutional Support to Entrepreneurs:** SIDCO - TCOs - DIC - TIIC - SIDBI - Commercial Banks.

5. **Incentives for Small Scale Business:** Subsidy - Tax Concessions - Assistance - Export Assistance - Technical Assistance.

Text Book

E. Gordan & K. Natarajan, Entrepreneurship Development, Himalaya Publishing House, 2017.

References

1. Holt, Entrepreneurship: New Venture Creation, Prentice-Hall, 2018.
2. R. V Badi & A. V Badi, Entrepreneurship, Vrinda Publication (p) Ltd, New Delhi 2010
3. K. Ramachandran, Entrepreneurship Development, Tata McGraw Hill, New Delhi, 2017.
4. Dr. Radha, Entrepreneurial Development, Prasanna and Co, Chennai. 2019

LSV 3402 **Soft Skills** **(4h/wk) (4Cr)**

The learner will gain the skills required for the corporate world that would enhance one's employability and to provide an exposure to the students regarding the soft skills required for the job market.

Course outcomes:

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

i. Cite the meaning and define soft skill and also to identify the different types of soft skills.
ii. Identify different types of communication and overcome the barriers for effective communication.
iii. Develop and exhibit a good body language and enhance their personality.
iv. Exhibit a polite behaviour in society or among members of a particular profession or group and enrich their public speaking skill.
v. Enhance their writing skill and face interviews without fear.

Unit I - Soft Skill: Definition - Importance of soft skills - Types of soft skills.

Unit II - Communication: Definition - Process - Types - Verbal, non-verbal - Uses - Barriers of effective communication.

Unit III - Inter Personal Relation Skills: Body Language and personality.

Unit IV- Etiquettes or Manners: Art of Public Speaking - Chracteristics of a good speech - Planning to speak.

Unit V- Writing Skills: Importance - Types **Interview:** Types - Selection - Appraisal - Exit.

Text Book

Rajendra Pal & J. S. Korlahalli, Essentials of Business Communication, Sultan Chand & Sons, New Delhi, 2016.

References

N.S.Raghunathan & B.Santhanam, Business Communication, Margham Publications, Chennai, 3rd Edition 2018.

Reddy, Appannnaih & Raja Rao, Essentials of Business Communication, Himalaya Publishing House, Mumbai, 2017.

Rizvi, M. Ashraf - Effective Technical Communication, Tata McGraw Hill, 2011

Blundell J. A & Middle N. M. G.: Career – English for the Business and Commercial World, Oxford University Press, 2009

VAQ 3113 **Lab-V** **10h/wk-10credits.**

Fish microbiology and biotechnology, Intensive and integrated fish farming

The laboratory component includes exercises for fish microbiology and biotechnology with their techniques.

Specific learning outcome: At the end of the course the students will be able to

- Identify the procedure for isolating and preparing chromosomes in fishes
- Study of pathogenic microbes involved in fish spoilage
- Gain knowledge by visiting nearby tilapia and catfish breeding form
- Prepare feed for catfish and tilapia

1. Isolation and quantification of DNA
2. Preparation of chromosomes from embryo and young fish
3. Ploidy determination by RBC measurements.
4. Practical on gene bank sequence data bases.
5. Study of microbes associated with fish.
6. Isolation of pathogenic microbes like salmonella, listeria.
7. Effects of chemicals and physicals preservations on fish spoilage.
8. Study of aerators and air blowers.
9. Visiting nearby hybrid tilapia and catfish breeding farm.
10. Formulation of feeds for catfish and tilapia.

Suggested reading.

1. Gilbert .B. 1990: aquaculture vol II Ellis Harwood
2. Rath. P.K. 2000: fresh water aquaculture. Scientific publ.
3. Felix. S. 2007. Molecular diagnostic biotechnology in aquaculture. Daya publ. house.
4. Pandian. TJ., strussmam C.A and marian. M.P. 2005 fish genetics and aquaculture biotechnology. Science publ.

Lab- 5

Fish microbiology and biotechnology, Intensive and integrated fish farming

Blooms taxonomy for

Fish microbiology and biotechnology, Intensive and integrated fish farming

Mean: 3

VAQ 3114 Lab – VI 10h/wk- 10credits.

Mariculture and Aquatic animals and health management

The laboratory component includes exercise for using microscope sampling preparation of media and culture of pathogenic bacteria. Histopathological studies, assessment of seed quality prophylactic and quarantine measures are studied.

Specific learning outcome: At the end of the course students will be able to

- Analyze the infected part of fish by using histopathological studies
- Estimate the dose of chemicals and drugs for treating common diseases
- Identification of cultivatable seaweeds, marine finfish and shellfish
- Gain knowledge through visiting coastal aquarium and assessing the seed quality.c

1. Analysing infected parts of fish by using microscope
2. Histopathological studies on infected fish
3. Determination of dosages of chemicals and drugs for treating common diseases
4. Identification of cultivatable marine fin fishes and shell fishes
5. Identification of cultivatable sea weeds
6. Designing of different farming system - cages, pens, raffles.
7. Visiting coastal aquarium
8. Assessment of seed quality – stress test
9. Taxonomy and identification of fish parasites
10. Sampling, preparation of media and culture of pathogenic bacteria

11. Prophylactic and quarantine measures

References

1. Shankar KM & Mohan CU 2002. Fish and shell fish health management UNESCO publ.

2. Woo PTK & Bruno DW (Eds) 1999. Fish diseases and disorders. Vol III. Viral, bacterial and fungal infection CABI.

Mean: 3

VAQ 3401 Fish microbiology and biotechnology 4h/wk-4credits

This theory course deals with the various areas of biotechnology in aquaculture include use of
Synthetic hormones, enzymes and vaccines. It covers spoilage of fresh fish, micro organisms and processed to sea foods microbiological safety concept of quality management.

Specific learning outcome: At the end of the course students will be able to

- Describe the scope of biotechnology in fisheries and fish feed.
- Understand the types of probiotics, bioactive compounds used in aquaculture
- Explain the role of microbes in fish food
- Gain the knowledge from principles of fish preservation and processing.

Unit I. Aquaculture biotechnology

Scope of biotechnology in fisheries – transgenic – principles and application in fisheries – feed biotechnology – single cell proteins –nutraceuticals.

Unit II. Probiotics and prebiotics

Types of probiotics and prebiotics with their use- immunostimulants used in aquaculture – bioremediation in aquaculture system – culture of primary cell and secondary culture – development of cell lines and their applications.

Unit III. Recombinant DNA

Proteins of commercial importance – enzymes – hormones –bioactive compounds – therapeutic proteins- bioremediations- treatment of waste water –vaccines in fishes.

Unit VI. Role of microbes in food

Microbes in nature and food – microbes in fish – parameters that affect microbial – psychrophiles, halophiles and thermophiles nd their role in spoilage and food poisoning.

Unit V. Principles of fish preservation and processing.

Food pathogen, infection and in toxification – types of fish spoilage, microbes in processed and semi processed fisheries product – concept of quality ,management – TQM, GMP, HACCP and ISO.

References

1. Felix.s. 2007: molecular diagnostic biotechnology in aquaculture, Daya publ. house.
2. Nair. PR: 2008: Biotechlnologyandgenetics in fisheries and

aquaculkture, Dominants publ.

3. Reddy. PUG,Ayyappan.S., Thampy.DM. and Gopalakrishnan 2005:

Text book pf fish genetics and biotechnology ICAR.

4. Pandian TJ., Strussmann. CA. and marian., M.P 2005: fish genetics and aquaculture biotechnology .sciences.publ.
5. Robinson. R.K1985: microbiology of frozen food. Elsevier applied sciences publishers.
6. Devadasan. K., mukundan, MK., Antony P.D., and jose joseph 1997. Nutrients and bioactive substsnces in aquacutic organisms. Soft (I).
7. CIFT- training manual.2011: seafood quality assurance CIFT, Cochin.

VAQ 3402 **Mariculture** **4h/wk-4credits**

This course is designed to introduce the culture of marine organism both plants and animals in an aquatic medium. Learn to form fish crustaceans and shellfish in salt water and also explain the use and production and aquatic algae.

Specific learning outcome: At the end of the course students will be able to

- Outline the different mariculture practices and their demand
- Explain the procedure commercial production of finfish, crustaceans and molluscs
- Describe the techniques involved in seaweed culture, agar, algin and carrageen species cultivation.
- Learn to plan and manage the mariculture practices.

Unit I. Mariculture products and demand

Different farming system- cage and pen culture, types, site selection, construction and specification-factors affecting mariculture in India.

Unit II. Cultivable fin fishes

Biology, seed collection, nursery rearing culture technique- problem and prospects, seabars, milkfish, mullets, pearlspot, seabreams, rabbit fih, grapers, cobia and salmon.

Unit III. Culture of marine mollucs and echinoderm

Present status and scope- species cultured (mussels, oysters, pearloyster, scallops, cockles and sea cucumber) – distribution, biology and practices – farming methods.

Unit IV. Culture of crustaceans

Shrimp farming- pond construction preparation and managements- harvesting and handling- production of sopt shell crabs and mud crab fattening- lobster and cry fish culture.

Unit V. Sea weed culture

Commercially important seaweed spaces methods of culture- farming of agar, algin, carrageen species emerging trends and integration with other farming system.

References

1. Bardach. E.J. Rhyther JH & MC larney wo 1972. Aquaculture thefarming and husbsmdary of fresh water and marine organisms

John wiley& sons.
2. ICAR 2006. Handbook pf fisheries and aquaculture ICAR. Pillay TUR &kutty MN 2005.aquaculture: principles and practices 2nd edition. Black well.

Mariculture

VAQ 3403 Intensive and integrated fish farming 4h/wk-4credits

This course is reviewed the various integrated practices, integrated management and comprehensive use of aquaculture, agriculture and livestock, with an emphasis of aquaculture. In the last section deals with integrated multi topic aqua cultural system are discussed in detail.

Specific learning outcome: At the end of the course students will be able to

- Explain the status and future for intensive fish forming
- Describe the commercially important fishes, water quality maintenance and monosex seeds.
- Understand the agri based integrated, poultry and duck cum fish culture practices

Unit I. Intensive farming

Status and future for catfishes and tilapia in India –need and development for intensive farming- diseases and control measures.

Unit II. Cat fish and Tilapia

Commercially important fishes – intensifying catfish and tilapia culture –poly culture- water quality maintenance and feeding – sex reversal techniques for tilapia – mass culture of monosex seeds and hybrids in tilapia red tilapia production.

Unit III.Agribased integrated Integrated farming

Rice cum fish culture horticulture, mushroom and sericulture- cattle cum fish culture – waste water recycling- manuaring – polyculture.

Unit IV. Poultry and Duck cum fish culture

Designing and construction of integrated fish ponds – monitoring water quality and recycling – feeding and monitoring- sampling and harvesting.

Unit V. Integrated multi – Topic aquaculture system (IMTA)

Selection of species- organic case studies- benefits- prospects.

References

2. Jhingran. UG. 1991: Fish and fisheries of India. Hindustan pibl.corp.
3. Shepered. J. and Brommage. N.1990. Inytensivefigsh farming B.S.P professional books.
4. Bardach. E.J. Rhyther, J.H nad MC. / larney. W.O. 1972: Aquaculture. The farming and Husbandry of fresh water and marine organisms. John Wiley & sons.
5. Pillay TVR. 1990: aquaculture, principles and practices fishing news books.

VAQ 3404 Aquatic animals health management 4h/wk-4credits

This course is designed to introduce the defense mechanism and immune system and inflammation response to disease. The second section deals with the parasitic and micotic diseases. The third section deals with infection bacterial and viral diseases. The last section deals with the health management techniques and seed certification.

Specific learning outcome: At the end of the course students will be able to

- Describe the immune mechanism involved against infectious diseases
- Explain the character, diagnosis, prevention and treatment for parasitic, mycotic, bacterial and viral infection.
- Analyse the diagnosis of nutritional deficiency diseases and the health management techniques.

Unit I: Defence mechanism

Specific and non specific mechanisms in fish and shell fish- Immune cells, immune system- Innate, aquaired and inflammation response to diseases

Unit II: Parasitic and mycotic diseases

General characterizes- Epizootiology - Diagnosis, Prevention and treatment

Unit III: Infections bacterial and viral diseases

Symptoms and diagnosis- prevention and treatment- EHNV, KHV, SVCV, VNNV- white spot and Taura syndrome

Unit IV: Non – infectious diseases

Nutritional diseases- Environmental parameters and their effect on fish health diseases in hatchery- Vaccines and adjuvant –administration and mode of action

Unit V: Health management techniques

Microbial, hematological, histopathological, immunological techniques – diseases surveillance and reporting – Diseases control and management – Fish health and quarantine system – Seed certification.

References

2. Andrews C. Excell. A. Carrington N. 1988: The manual of fish health. Salamander books.
3. Sindermannn CJ. 1990 Principal Diseases of marine fish and shell fish. Vol I, II, 2nd Ed. Academic press.
4. Felix. S. Raji John. K Prince Jwyaseelen MJ. And Sundaraj V.

2001: Fish diseases diagnosis and health management. Fisheries College and Research Institute, T.N

5. Vetineray and animal sciences university. Thoothukudi.

VEV 3402 YOUTH IN THE GLOBAL CONTEXT4hrs /4 credits

Objective: *To make the students understand the meaning and implications of globalization. To acquaint them about new challenges world is facing due to globalization. The good side and the sad size of globalization – To enlighten them about the need to learn family values and practice them to cope up with the newly arising challenges.*

Unit - I UNDERSTANDING KEY CONCEPTS OF GLOBALISATION

Free market Economy and Global Market Network - Communication and transport - Technology and Global Production System - Global Capital and investments - Culture of over consumption - Human needs - Over exploitation of resources

Unit – II EDUCATION IN GLOBALISED CONTEXT

Differential access to Education at the Primary, Secondary and Tertiary level- Problem of Quality Addressing deficiencies – need for communication and other Social skills - need for equitable and quality universal education

Unit - III GLOBALISATION AND EMPLOYMENT

New aspirations and the demands placed on youth - Changing structure of Employment and working norms related to time and remuneration - New Forms of insecurities - Cultural alienation -Youth and Consumerism - Distinguishing successful and meaningful life

Unit - IV YOUTH AND FAMILY VALUES

Mobility of Youth - Fragmentation of family structure - Issues relating to Marriage and Marital harmony; Addressing the growing rate of divorce and separation - Family related values

Unit - V GLOBALISATION AND OTHER SOCIO POLITICAL ISSUES

Poverty and Marginalization under Globalization – Terrorism - Rise of religious fundamentalis and Cultural Chauvinism – Corruption – Democracy - civil society issues – Social Values: Honesty, Hard Work, Trustworthiness

Books for refer

Study Materials will be provided.

Course outcomes: At the end of this course, the students will be able,

CO1: To explain what is globalization and their important aspects

CO2: To assess the conditions of education in their society

CO3: To predict the new challenges arise in the society due to globalization

CO4: To analyze the emerging trends in employment and cope up with them

CO5: To apply the values in their lives amidst the changing scenario

VFP 3115 **(10h/wk) (10Cr)**

Lab in Bakery, Confectionery and Food Service Management

The course is designed to develop the ability to assess, formulate & the characteristics of quality of baked & confectionary products.

Course Outcomes

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.

Laboratory Experiments

1. Microscopic examination of wheat flour and other flours
2. Preparation of Gluten from various cereal flours.
3. Quality test for wheat flour used in the baked products- Maltose Number, Water absorption, Sedimentation value, Alcohol Acidity.
4. Preparation of wheat bread, milk bread, millet bead, buns, rolls.
5. Preparation of cakes and icing.
6. Preparation of puffs.
7. Preparation of salt biscuits, sweet biscuits, masala biscuits, chilli biscuits, chocolate biscuits, tri color biscuits, chocolate cookies, coconut cookies, nut rings.
8. Preparation of fudge, fondant, candies, toffees chocolates jujeps.
9. Planning and preparation of menu for various occasions
    a) Birth day
    b) Deepavali
    c) New year special
    d) Wedding menu
    e) Christmas
    f) Holi
10. Calculation of food cost, labor cost, operating cost and overhead cost of a home-made dish.
11. Calculation of gross profit percentage of an establishment welfare/ commercial / transport for catering

References

Dubey SC (2002).Basic Baking.Published by the society of Indian Bakers, New Delhi.
Nicolello I and Foote R (2000). Complete Confectionary Techniques. Hodder and Solution, London.

Mean = 4.2

Lab inAdulteration, Food quality testing and evaluation

VFP 3116 **(10h/wk) (10Cr)**

This course consists of planning, production and serving of food and beverages to customers and clients. Students also learn about hospitality in food service business. It provides an overview of the industry and current trends in food establishment management, food preparation theories, techniques and customer client relations.

Course Outcomes

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

Laboratory Experiments

1. Identification of adulterants in milk and milk products.
2. Identification of adulterants in oil and fats.
3. Identification of adulterants in food grains and its products.
4. Identification of adulterants in salt, spices and condiments.
5. FPO standard foods and food products and analyzing their quality.
6. Microbiological examination of food.
7. Assessment of surface sanitation by swab and rinse method.
8. Bacteriological analysis of water by MPN method.
9. Qualitative tests for hydrogenated fats.
10. Analytical and effective tests of sensory evaluation.
11. Measurement of colour by using tintometer.
12. Study on flavour defects in milk.

References

Palacio, J.P, Harger, V, Shugari, G and Thesis, M (2001). Introduction to Food Service.MacMillan Pub Co., New York.
Cessarani,V. and Kinton,R (2002). Practical Cookery.7th Edition.Hodder and Stoughton

publishers.
Khan, M.A (2003). Food Service Operations.AVI Publications Co., Connecticut.
Thangam Philip (2005). Modern Cookery.3rd Edition.Orient Longman Limited.
Sethi, M. and Malhan, S.M (2007).Catering Management – An Integrated Approach.Wiley Eastern Limited, Mumbai.

Mean = 3.8

VFP 3401 Bakery and Confectionery (4h/wk) (4Cr)

This course is designated to gain a deeper understanding in art of Bakery and Confectionery products.

Course Outcomes

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

1. **Bakery and Confectionery industry:** raw materials - quality parameters - dough development, dough chemistry, raw materials for cake making – flour, egg, yeast, butter, margarine, oil, leavening agents

2. **Preparation of bakery products I:** Bakery products description – chooseberry, donut, puddings,waffle, caramel and custard.

3. **Preparation of bakery products II:** Bakery products description – cakes, eggless cake, pizza base bread, biscuits, and effect of variations in formulation.

4. **Physical Parameters:** Rheological testing- Farinograph, Mixograph, Extensograph, Amylograph / Rapid Visco Analyzer, Falling number, Hosney's dough stickiness tester.

5. **Confectionery products**: Characteristics and processing of raw material, Technology of manufacturing of toffee, chocolate, hard boiled candies, bars, chewing gums, bubble gums storage and characteristics of finished products.

Text Book

Singh UK (2011). Theory of Bakery and Confectionary An operational approach, Kanishka Publishers and Distributors, New Delhi.

References:

Bakers Hand Book on Practical Baking (2000).U.S. Wheat Associates,New Delhi.
Dubey SC (2002).Basic Baking.Published by the society of Indian Bakers, New Delhi.
Nicolello I and Foote R (2000). Complete Confectionary Techniques,Hodder and Solution, London,

VFP 3402 Food Service Management (4h/wk) (4Cr)

This course gives a comprehensive understanding of the basic principles of management in food service units. It helps students to know responsibilities in catering establishment, hospitals and paves way for becoming a conscientious caterer and food service administrator. The major aim is to develop skills in setting up food service units.

Course Outcomes

Upon completion of this course, the student will be able to:

i. Outline therole 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.

1. **Food Service industry:** Definition – types of catering – Hotel, Motel, Restaurant, Cafeteria and chain hotels. Welfare – Hospitals, School , Residential establishment and Industrial catering, bakery. Transport – Air, Rail, Sea and Space Miscellaneous – Contract and Outdoor.

2. **Layout:** Floor planning and layout for catering establishment, Characteristics of typical food service facilities. Lay out of kitchens, types of kitchen, storage and service area. Lay out of bakery unit.

3. **Equipment in Food Service:** Classification, factors affecting selection of equipment – electrical and nonelectrical equipment. food storage, preparation, service, care of major, traditional, modern equipment.

4. **Equipment in bakery and confectionery industry:** Mixers, proofing chambers, dough dividers, moulder,sheeter, baking ovens, cooling chamber, sealing packaging machines, Rolling and cutting machines.

5. **Menu planning and Food Management:** Menu planning **-** Definition, principles of menu planning, types of menus, standardization of recipe - standard recipe format – uses. Standard portion sizes -portioning equipment, portion control, use of left over foods.Food management - Definition, principles, functions, steps and techniques in effective management. Tools of management**,** organization chart, work study, work simplification and work improvement. Financial Management – Costing, budgeting, accounting – factors affecting – food cost, labour cost, operating cost, overhead cost.

Text Book

Sethi M and Malhan SM (2007).Catering Management – An Integrated Approach, Wiley Eastern Limited, Mumbai.

References

Khan MA (2003).Food Service Operations, AVI Publications Co., Connecticut.
Negi, J (2000). Professional Hotel Management.S.Chand and Company Limited, New Delhi.

Palacio JP, Harger V and Shugari,G. (2001). Introduction to Food Service.MacMillan Pub Co., New York.
Thangam Philip (2005). Modern Cookery, 3rd edition, Orient Longman.

Mean = 3.4

VFP 3403 Food Adulteration (4h/wk) (4Cr)

The main objective of this course is to impart knowledge and skills related to food adulteration

Course Outcomes
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.

1. **Adulteration**: Definition – reasons – types - intentional, incidental – microorganisms metallic contamination and toxic effect – packaging hazards – new adulterants.

2. **Detection of Adulterants**– Common Food Adulterants – food grains and products, oil and fats, spices and condiments, milk and milk products.

3. **Food Additives:** Definition, need for food additives,Types - Natural additives - Sugar and salt, Chemical additives -class I, class II additives, Colours, anti-caking agents, flavours, sweetners, emulsifiers, stabilizers, chelating agents, sequestestrants, antioxidants, and antimicrobial.

4. **Preservatives:** Definition, uses and importance, types-natural, artificial preservatives Sodium Benzoate, Sodium Nitrite, Sodium Sulfite, Sulfur dioxide, propyl paraben, BHA, BHT

5. **Other additives:** (i) Organic acids, propionate, benzoates, sorbates, acetates (ii) Ethlene and propylene oxide (iii) Alcohol ((iv)Wood smoke (v)Esters (vi) Mono Sodium Glutamate (MGM)

Text Book
Srilakshmi, B. (2002). Food science,New Age Publishers, New Delhi.

References
Taylor SL, Scanlan RA and Deckker M, (1985). Food Toxicology-A perspective on the relative risks, INC. publishing, New York.
Elsevier KL, (1987). Toxicological aspects of Food, Applied science publishers Ltd., London.

Gossesl AT and Bricker JD, (1986). Principles of Clinical Toxicology, Raven press, New York.

Goldblatt LA, (1989). Aflatoxin scientific background, control and implications, Academic press, New York.

VFP 3404 Food Quality Testing & Evaluation (4h/wk) (4Cr)

Thiscourse deals with various attributes of food in order to prevent spoilage by applying the principles of quality management. It provides opportunities to students to develop knowledge on quality management as well as quality control in food service sectors.

Course Outcomes

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

1. **Introduction to Food Quality Attributes I:** Sensory Evaluation-Appearance, flavour, textural factors and additional quality factors and quality control.
2. **Introduction to Food Quality Attributes II:** Gustation - importance of gustation - taste organs, taste perception, basic tastes- sweet, salt, sour, bitter and umami, taste measurement, Electronic Tongue, taste abnormalities. Introduction to Food Quality Attributes II: Olfaction- importance of odour and flavor, odour perception, theories of odour classification, chemical specificity of odour, odour measurement, olfactory abnormalities.
3. **Colour**: Colour - importance, attributes of colour, perception of colourcolour measurement: Munsellcolour system, CIE colour system, Hunter colour system, colour abnormalities.
4. **Texture:**Texture - importance, classification, Rheology of foods. Texture measurement – consistometer, viscometer, tenderometer, penetrometer, succulometer, gelometer.
5. **Total Quality Management: L**aboratory quality procedures and assessment of laboratory performance. International Standards, Codex Alimentaries, HACCP.

Text Book

Rao E. S. (2013). Food Quality Evaluation.Variety Books Publishers and Distributers, New Delhi.

References

David A, Shapton M, Naroh F andShapton (1991). Principles and Practises for the Safe Processing of Foods, Butterworth- Heinemann Ltd, Oxford.

Manay S and Shadaksharaswamy(2008) Foods - Facts and Principles, 3rdEdition, New Age International Pvt. Ltd.

Mean = 3

VML 3115 **Lab – V** 10 hrs/ Wk
10 Cr

This course is designed to impart skill to perform laboratory investigation on clinical samples for the diagnosis of parasitic diseases.

At the end of this course student will be able to:

1. Identify the mental, physical, and social and risk behaviors in elders. Formulate diet and agenda for their healthy life.
2. Assist, programme and advocate for the cause of elders with socio economic and spiritual values.
3. Identify adult worms. Prepare smears and perform microscopy for identifying ova, cysts, flagellates, larva, scolex, segments..
4. Prepare smears and perform staining techniques for identifying malarial parasites, microfilaria and Leishmania specie.
5. Design and demonstrate awareness programmes for prevention and control of parasitic infections.
6.

I. Examination of Faeces for Parasites

1. Saline wet smear preparation for ova, cyst and amoeba
2. Iodine wet smear preparation for ova, cyst and amoeba
3. Formol – Ether Concentration Technique
4. Flotation Technique (28% Zinc Sulphate solution)
5. Perianal swab for pin worms and microscopy

II. Examination of Blood for parasites.

6. Thin smear for malarial parasites
7. Field A & Field B Staining Technique

8. Leishman’s Staining technique
9. Wet cover slip preparation from night blood for microfilaria

10. Concentration technique (2% White Saponin) for thick smear – Malarial parasite and microfilaria.

III. Examination of adult worms and their head and segments.

11. Examination of tape worm segments – Indian ink preparation.

IV. Staining techniques in Parasitology

12. Methylene blue staining technique.
13. Wet Urine smear and Methylene blue staining: Trichomonas vaginalis.
14. Indian ink staining smear: Gravid segments of Taenia saginata and Taenia solium.

V. Spotters.

15. Microfilaria of Wuchereria bancrofti .
16. Plasmodium Species
17. Lieshmania Species.

References

1. Turgeon, Mary Louise.(2012) Linne & Ringsrud's Clinical Laboratory Science, ed 6, EL-SERVIER Inc MOSBY,MO.
2. Cheesbrough,Monica(2007) District Laboratory Practice in Tropical Countries Part 1&2,Cambridge University Press, United Kingdom
3. Talib, V.H (2014) Practical Text Book on Laboratory Medicine, CBS Publishers & Distributors Pvt Ltd, Delhi.
4. Carman, Robert H.(2016).Hand Book of CMAI Medical Laboratory Technology, CMAI Publication, New Delhi.

5. Godkar PB and Godkar DP. (2002). A Text Book for Medical Lab Technology, 2nd Ed, Bhalami Publishing House, Mumbai.

Mean: 5.0

VML 3116 **LAB- VI** **10 hrs/Wk 10 Cr**

This course is designed to develop skills in laboratory investigation in the diagnosis of Cardiac diseases, bone marrow diseases and diseases of the abnormal hemoglobins.

At the end of this course student will be able to:

1. Assist physician in bone marrow aspiration and prepare smears for microscopic examination.
2. Stain and scan bone marrow smears under microscope for assessing cellularity bone marrow. Identify immature, abnormal cells.
3. Examine the stained blood smear under microscope and give impression for anemias, leukaemias and other hematological disorders.
4. Perform certain biomarkers and biochemical tests in the diagnosis of heart diseases.
5. Carryout certain molecular techniques in the assessment of cancers of male and female reproductive organs.

I. Bone Marrow Examination

1. Bone Marrow Aspiration tools and method (Virtual Lab)
2. Bone Marrow Smear making (Virtual Lab).
3. May - Grunwald - Giemsa staining technique.
4. Microscopic examination of Bone Marrow smears.

5. Preparation of defibrinated blood and staining for L.E Cell.

II. Screening for abnormal hemoglobins

6. Sickling Test.
7. Estimation of Foetal Hemoglobin.
8. Demonstration of Electrophoresis units.
9. Preparation of Gel

Electrophoresis Buffer.

10. Preparation of stain for

electrophoresis.

III. Special chemical test

11. Determination of Glucose - 6 - Phosphate dehydrogenase

IV. Screening for Cardiac diseases

12. Troponin –I Card test.

13. Estimation of Creatine kinase MB.

V. Molecular techniques

14. PCR technique (Virtual Lab).

15. Western Blot (Virtual Lab).

16. ELISA Techniques (Virtual Lab).

Reference books:

9. Godkar, P.B and Godkar D.P (2002), Text Book of Medical Laboratory Technology ed 2, Bhalami Publishing house, Mumbai.
10. Carman, Robert H.(2016).Hand Book of CMAI Medical Laboratory Technology, CMAI Publication, New Delhi.
11. Turgeon, Mary Louise.(2012) Linne & Ringsrud's Clinical Laboratory Science, ed 6, EL-SERVIER Inc MOSBY,MO.
12. Scheppler J.A Cassin P.E and Gambier R.M (2002) Biotechnology Exploration-Applying the fundamentals, ASM Press, Washington DC.

Mean: 5.0

VML 3401 **Geriatric Care** 4hrs/wk
4 Cr

This course is designed to equip students with the knowledge and skills required to meet the unique health care needs of the aged in urban and rural areas. This also deals with intervention methods of government and NGOs in regards to policies, program, social welfare schemes and legislation.

At the end of this course student will be able to:

1. Explain aging and define aging in urban and rural context with psychoanalysis.
2. Discuss about the personality, social and psychological changes, living arrangements and gender discrepancies in elders.
3. Relate and rate diet related degenerative changes in elders and their physical activities.
4. Outline various kinds of physical and mental disorders in elders and explain how they can come out from such conditions.
5. Discuss health risk in old age, intervention methods in acute health crisis. Critique old age care initiative policies and programmes.

Unit – I Geriatrics

Geriatrics: Meaning and need; ageing: Meaning - Ageing categories - Physiology and age related changes - Ageing in rural and urban context – Theories of Ageing: Disengagement theory –Psychoanalytical theory and theory, psychological aspects of ageing.

Unit – II The Plight of the Aged

Psychological theories - Personality and Social changes, gender discrepancies, living arrangement - Depression and coping with psychological changes of ageing

- Establishing and maintaining good inter personal relationship and communication with family - Guidance and counseling.

III Nutritional requirements of older adults

Need of dietary alteration, energy needs of old, Formulation of diet for elderly, Diet related degenerative changes and physical activities.

Unit – IV Common conditions/diseases and disorders of the elderly

Fever, Anemia, Syncope, Vertigo, Anorexia, Loss of memory - Respiratory, heart, kidney diseases – Stroke – Metabolic, musculoskeletal disorders – CNS related

health problem, digestive problem – Vision, hearing and sleep problems – Per menopausal and Genitourinary problems – Cancer.

Unit – V Risks and Prevention

Health risk in old age: Smoking, alcohol, Social issues, Abuse/neglect, dependency, physical inactivity, Fall, Accident, Deafness, Low vision - Health promotion: Nutrition, exercise, screening, prevention of accidents, prevention of substance use-alcohol, drugs etc, smoking cessation.

Unit – VI Intervention

Definition and type of intervention - Care in Acute pain, chronic pain, chest pain, Diabetes, Stroke, Dementia, Active intolerance - Role of government and its policies, program, welfare schemes and legislation – Role of NGOs in providing assisted living facilities, Nursing home, Hospices and Old age home.

Reference books:

1. Rao, A. Venkoba (1989) Psychiatry of Old Age in India, Torrent Laboratories Pvt Ltd, Ahmadabad.
2. Biswas, S.K (1987) Aging in Contemporary India, The Indian Anthropological society, Calcutta.
3. Ishwar Modi(2001) Ageing Human Development, Rawat Publication, New Delhi.
4. Sudhir M.A (2005) Ageing in Rural India: Perspective and Prospectus, Indian Publishers Distribution, Delhi.

Mean: 4.1

VML 3402 **Special Hematology** 4 hrs / Wk
4 Cr

This course is designed to provide knowledge on development of various blood cells, alterations in the morphology of red, white blood cells, platelets and abnormal cells in blood and bone marrow. This also deals with various principles pertaining to the diagnosis of abnormal hemoglobin and their clinical significances.

At the end of this course student will be able to:

1. Explain the formation and development of blood cells in normal and abnormal conditions.
2. Discuss about the various staining technique in the diagnosis of anemia, leukemia, abnormal red and white blood cells.
3. Describe the formation of abnormal hemoglobins and their screening techniques.
4. Explain the use of biomolecular techniques in identifying the presence of abnormal hemoglobins.
5. Analyze the laboratory expressions and formulate genotype of patients with hemoglobinopathy.

I. Hemopoiesis and Bone Marrow Examination

Formation of Blood – Development of Red Blood cells – Abnormal maturation of red blood cells – Alteration in red blood cells. Development of white blood cells – Alteration in white blood cells. Bone marrow aspiration, Smear making and May - Grunwald - Giemsa staining and examination of Bone Marrow.

II. Special Staining methods and techniques

Periodic Acid Schiff (PAS) Stain for leukemia – Iron storage staining for Bone Marrow – Leukocyte Peroxidase – Lupus Erythematosis: Methods using defibrinated, clotted blood and staining method. Preparation for Heinz bodies. Kala azar: making of smear for Kala azar –Aldehyde test.

III. Hemoglobinopathies

Synthesis of abnormal hemoglobin (S, C,D and E) and their diseases – Foetal hemoglobin estimation – Screening for sickle cells using reducing agents – Qualitative solubility test for HbS.

IV. HB Electrophoresis

Identification of abnormal hemoglobin by Citrate Agar Gel Electrophoresis – Spectrophptometric estimation of hemoglobins using Phosphate Cellulose Acetate Membrane Electrophoresis (Elusion technique).

V. Chemical Tests in Hematology

Determination of Plasma hemoglobin – Serum Hepatoglobin – Red Cell Pyruvate kinase - Glucose – 6 – Phosphate dehydrogenase (G-6-PD) – Red cell reduced Glutathione – Hams test – Sucrose lysis test.

Reference books:

5. Cheesbrough, Monica (2007).District Laboratory Practice in Tropical Countries Part 1, Cambridge University Press, UK.
6. Godkar, P.B and Godkar D.P (2002), Text Book of Medical Laboratory Technology ed 2, Bhalami Publishing house, Mumbai.
7. Carman, Robert H.(2016).Hand Book of CMAI Medical Laboratory Technology, CMAI Publication, New Delhi.
8. Turgeon, Mary Louise.(2012) Linne & Ringsrud's Clinical Laboratory Science, ed 6, EL-SERVIER Inc MOSBY,MO.

VML 3403 **PARASITOLOGY** 4hrs/wk 4 Cr

This course is designed to impart knowledge on diseases caused by parasites in human body and the principles involved in the laboratory diagnosis. This also equips students to develop and create awareness program against parasitic infections.

At the end of this course student will be able to:

1. Explain and classify parasites, host and discuss the distribution of parasites in clinical samples and their pathogenesities.
2. Compare the morphology, life cycle of blood and intestinal parasites and their laboratory findings.
3. Comment on blood, muscle and intestinal nematodes its morphology, life cycle and their pathogenesity.
4. Describe the morphology of eggs, segments, scolexes of tape worm and their pathogenesity.
5. Discuss about the distribution of flat worm infections and their morphology and pathogenesity.

Unit-I Introduction to Parasitological

Definition, types and classification parasites, host and distribution of parasites in clinical samples - Diseases caused by Parasites – Collection, preservation and transportation of clinical samples for examination - Principles and methods employed in the processing of samples - Direct wet saline and Direct wet Iodine smears, concentration technique, flotation technique, microscopy, night blood collection and 2% White saponin concentration technique for malarial parasites and microfilaria and immune techniques.

Unit – II Protozoans

Blood, C.S.F, Bone marrow intestinal Parasites: Morphology , developmental stages, life cycle and pathogenesity of Species: Plasmodium, leishmania and schistosoma, entamoeba histolytica, entamoeba coli - Difference between the amoeba and cystic forms and

difference between amoebic and bacillary dysentery
– Trophozoite and cystic forms of Giardia lamblia, Chylomastric mesnili, Balandidium coli and Trichomonas vaginalis.

Unit – III Helminths: Nematodes

Blood, muscle and intestinal nematodes: Morphology, stages in the life cycle, larva of Wuchereria bancrofti, Brugia malayi, Loaloa, Onchocerca volulus, Trichenella spiralis, Ascaris lumbricoides, Anchylostoma duodenale, Nicator americanus, Trichuris trichura, Strongyloid stercoralis and Dracunculus medinensis.

Unit – IV Helminths : Cestodes and Trematodes

Cestodes: Scolex, gravid segments, life cycle and pathogenesity of Taenis saginata,Taenia solium, Echinococus granulose and its Hydatid cyst –cisticercus – Hymenolepsisnana and Diphylobothrium latum. **Trematodes**: Morphology of adult worm, its ova, life cycle and pathogenesity of Paragonimus westermani, Fasiola hepatica, Schistosoma mansoni, Schistosoma japonicum and Taxoplasma gondi.

Text Book:

Arora,R and Arora Brij Bala(2013). Medical Parasitology – Fourth edition,CBS Publishers & Distributors Pvt Ltd, Delhi.

Reference Book:

1. Robert, H. Carman (2016) Hand book of Medical Laboratory Technology, CMAI Publication, New Delhi.
2. Turgeon, Mary Louise.(2012) Linne & Ringsrud's Clinical Laboratory Science, ed 6, EL-SERVIER Inc MOSBY,MO.
3. Cheesbrough,Monica(2007) District Laboratory Practice in Tropical Countries Part 1&2,Cambridge University Press, United Kingdom
4. Raja, S and Christ Selvi,R(2015) Experimental Procedures in Life Science, CBS Publishers & Distributors Pvt Ltd, Delhi.
5. Talib, V.H(2014)Practical Text Book on Laboratory Medicine, CBS Publishers & Distributors Pvt Ltd, Delhi.

Mean: 5.0

VML 3404 **Metabolic Disorders and Molecular Diagnosis**
4hrs/wk 4 Cr

This course is designed to provide Clinical and Laboratory Diagnostic knowledge on metabolic disorders, Cardiovascular Diseases and various Markers used in the diagnosis of cardiac diseases and tumors .This also deals with applications of Molecular Techniques in laboratory diagnosis.

At the end of this course student will be able to:

1. Explain the signs and symptoms of various metabolic diseases and relate laboratory findings.
2. Discuss about the clinical symptoms and laboratory investigations of cardiovascular diseases.
3. Predict the use of cardiac markers in the diagnosis and assessment of treatment.
4. Describe the use of tumor markers in the diagnosis of male and female reproductive systems.
5. Explain the use of methods of various techniques in the field of molecular technology.

I. Metabolic Diseases

Endocrinology and metabolism – Wilson's disease – Porphyria – Alzheimer's diseases –Metabolic encephalopathy – Hyperlipoproteinemia –Osteoporosis – Osteomalacia – Gout.

II. Cardiovascular diseases

Congestive heart failure –Hypertension – Arrhythmias –Valvular heart

disease

–Congenital heart disease in adult – Infarction endocarditis –Acute Myocardial infarction – Chronic coronary artery disease – Pericardial disease – Cardiomyopathies and myocarditis – Diseases of the Aorta – Peripheral vascular disease.

III. Cardiac Markers

Serial sampling for cardiac markers – Myoglobins – Troponons – Creatine kinase MB – Homocysteine – C-Reactive protein – D-Dimer and Microalbuminuria.

IV. Tumor Markers

Alpha-fetoprotein – Beta Sub unit of Human chorionic gonadotropin – CA-15-3 ; CA-27.29 ; CA-19.9 ; CA125 - Carcino embryonic antigen – Prostate specific antigen (PSA) – Enzyme and Hormone markers.

V. Molecular Techniques

Polymerase Chain Reaction – Southern Blot – Northern Blot – Western Blot – DNA chip technology.

Reference Books:

1. Chatterjee,M.N .Shinde R.(2002)Text Book of Biochemistry,ed 5,Jaypee Brothers Medical Publishers Private Ltd, New Delhi (ISBN -81-7179-991-4)
2. Godkar, P.B and Godkar D.P (2002), A Text Book of Medical Laboratory Technology, ed 2, Balami Publishing House, Mumbai.
3. Scheppler J.A Cassin P.E and Gambier R.M (2002) Biotechnology Exploration-Applying the fundamentals, ASM Press, Washington DC.
4. Turgeon, Mary Louise.(2012) Linne & Ringsrud's Clinical Laboratory Science, ed 6, EL-SERVIER Inc MOSBY,MO, U.S.A.

VML 3415 **Internship - V**
120Hrs/Sem-4Cr

Job Training: A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts.

VML 3416

VML 3416 **Internship VI** **120Hrs/Sem-4Cr**

Job Training: A work-based learning experience that enables the student to appl specialized occupational theory, skills and concepts.

Internship VI
120Hrs/Sem-4Cr

VMT 3402 Animation Techniques (Maya) 4 Hrs/ Wk- 4Credit

Course Objective:

` The objective of this course is to train the students the necessary tools for 3D animation and makes them to design and edit animated applications

Course Outcome

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

i. Reproduce the techniques of introduction and basic models of Animation with the support of software
ii. Apply the tools and techniques in the software and creating various types of modeling
iii. Analyze the methods of various modeling with the support of 3D animation software
iv. Design various types of 3D models by using the Animation software
v. Plan for the advanced techniques of menus and tools and create visual effects in the software

UNIT I:

Introduction to 3D Animation – Types of Modelling: Basic Models – Pillow Modelling – Ice-cream Modelling – 3D Shark Modelling – Creation of Odd Object in the software

UNIT II:

Soda can Modelling – Alternative modelling Techniques – Creating a Marble Floor in 3D – Creating a Milk Simulation – Hammer Modelling – Hard Surface Modelling – Science Fiction Panels

UNIT III:

Mash and Mesh: Introduction – Cartoon House Modelling – Modelling Complex – Objects – Stylized Fried Chicken Leg model – Lights and Shadows

UNIT IV:

Creating a Thread Model – How to use mash Dynamics – Circularize Components – Creating Ambient Occlusion – 3D Air filter Model – Twisted Candle 3D Model

UNIT V:

Creating n particles – Fluids – Dynamics – Visual Effects – Introduction to Rigging

Reference:

1. Autodesk Maya 2018: A comprehensive Guide, Sham Tickoo
2. Autodesk Maya 2018 Basics Guide, Murdock Kelly.

Mean: 3.8

VMT 3403 Introduction to Video Production 4h/wk-4credits

Course Objective:

This course aims at training students for capturing and editing moving images with digital videos camera for various purposes. It also proposes to serve as a preparatory course for cinematography.

Course Outcome:

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

i. Infer the basic Parts and functions of a Video Camera
ii. Apply the formula of Five C's in Cinematography and identify about Camera Shots and Movements
iii. Summarize the lighting techniques in Indoor, Outdoor Production and lighting techniques for various programs in television
iv. Identify the skills of Filmic Time, Space and different types of Montages
v. Create a Video by applying the procedure of Video Editing in the Software.

UNIT I:

Introduction to Video Camera: Parts of Video Camera – Functions of Video Camera –Basics of Video Camera: Lens - Aperture – Shutter speed – ISO – IRIS – Types of Video Camera.

UNIT II:

Five C's of Cinematography: Camera Angle – Continuity – Cutting – Close – ups - Composition: Rule of Third – 180 Degree Rule – 360 Degree – Eye Match– Types of Shots – Camera Movements

UNIT III:

Introduction to Lighting: Natural Lighting – Artificial Lighting – Equipments used to control light - Lighting Equipments for indoor and Outdoor Production – Lighting for various production: Interview – Talk Show – Game Show

UNIT IV:

Shot – Scene – Sequence –Filmic Time and Space in Film –Rhythm – Tempo – Contrast – Montages – Types of montage

UNIT V:

Editing Basics – Cut - Dissolve – Fade – Wipe – Editing Process: Capturing – Transferring – Rough Cut – Applying Basic Transition and arranging the Sequence – Types of editing: Jump Cut – Match Cut – Parallel Editing

Reference:

1. Malkiewicz.k, Film Lighing, 1992, Simong& Schuster, New York
2. Mascelli. J.V, The Five C's of Cinemotography, 1965. Silman-James press, Bevely Hills.

VMT 3404 Media Management 4 Hrs/

Wk- 4Credits Course Objective:

This Course aims to facilitate the understanding about the functioning and operations of media enterprises. Alongside, the students will be oriented towards the different legislations and legal frame work implemented to monitor the functioning of the media.

Course Outcome:

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

i. Recall the definition and scope of various media
ii. Infer the operation and structure of various Departments in media like Print, Electronic and New media
iii. Apply the techniques of conventional media to the New Media
iv. Summarize the Laws and Ethics of Cyber laws in various types of media
v. Review the concepts of PR and its application in various sectors in the society

UNIT I:

Definition & Scope (a) Print Media, (b) Electronic Media-development of radio and T.V. in India- Satellite TV and emerging media landscape.

UNIT II:

Organizational structure - Newspapers/Magazines Management : circulations, advertising, editorial, library, production, storekeeping.- Business Media Ethics – Press Laws, State Control Vs Freedom of Media – Broadcasting Bill PrasarBharati, Press Council of India – debates in responsibility and accountability of journalists and publishers and consequences of misreporting, Press Legislature of India.

UNIT III:

Net convergence and journalism: Concepts, components and functions - Cyber Journalism - Web Magazine and Web Newspaper - Challenges and opportunities for a journalist - Readers as publishers

UNIT IV:

Cyber laws: Introduction and its functions - Ethics and Laws related to Cyber Laws in India - Cyber Journalism: Introduction and its Significance – Future of Cyber journalism

UNIT V:

Theory and practice of PR, definition, role and functions - PR in changing social and political environment - Types of Public and Tools of PR - Art of persuasion, feedback, campaign planning and strategies - Financial PR - Media Tracking – Cross Country issue propaganda.

Reference:

1. Public Relations : Cases and Problems – B.Canfield and Moore Homewood III, Irwin Publications
2. Corporate Communication : Principles, Techniques and Strategies - Kogan Page 1997
3. Planning and Managing a Public Relations Campaign – a step by step guide –Anne Gregory

Mean: 2.6

VMT 3405 Video Editing Techniques 4hrs/wk-4credits

Course Objective:

This course aims at enabling the students to understand the basics of Video editing components and makes the students familiar with video editing tools.

Course Outcome:

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

i. Relate the basic knowledge of editing methods
ii. Create an innovative video with the application of transition, Video and sound effects with the support of raw footage
iii. Apply the knowledge of Audio and adding tracks in the Video Editing Software
iv. Summarize the skills and sense of Colour theory in the software
v. Plan a final output with the source video files by sweetening Video and Audio

UNIT I:

Setting Up a Project- **Importing** Media - Organizing Media-understanding various codec- Important tools in editing application.

UNIT II:

Essentials of Video Editing –Timeline settings-Insert, Over write, extract, lift-Working with Clips and –Markers -Adding Transitions –Video effects - Trimming – Key frame animation

- Multi camera Editing

UNIT III:

Audio tracks Mono, stereo-Managing audio tracks- Sweetening Sound - Adding sound Effects and Mixing Audio.

UNIT IV

Color Correction- Color balancing and Grading - Exploring Compositing Techniques –Croma keying and matte removal techniques, Creating Titles.

UNIT V:

Managing Your Projects - Exporting Frames, Clips, and Sequences - An overview of color- oriented effects Project Menu overview - Photoshop tips

for DV productions - Export Options

REFERENCE:

1. Mollison.M, Producing videos a complete guide, 2007, Allen &Unwin, Austialia
2. Malkiewicz. K & Mullen M.D., Cinemotography, 2005. Simon & Schuster, New York

VMT 3406 Lab VI: Animation Techniques 10 Hrs/ Wk- 10 Credit

Course Objective:

This course aims to acquire knowledge practically to create layers, Design character and creating motion to the character by using the animation software.

Course Outcome:

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

i. Apply the methods of creating methods, colour and text by using the animation software
ii. Create an animation to the cartoon character by using the tools and menus in the software
iii. List the various types of tweening animation with the aid of Animation software
iv. Produce a script for the animation character by using the animation software
v. Enumerate the various tools and giving an output by using the Animation software

- Creating Objects, colors and text
- Frame-by Frame animation
- Usage of layers
- Symbols
- Tweened animation
- Motion tween
- Shape tween

- Animation using Guide layer
- Masking
- Buttons
- Sounds
- Action script

VMT 3407 Lab V: Video Editing (Practical) 10 Credit/

12 HRS/SEM Course Objective:

The Course aims to obtain practical skills on Video Editing by using the Video Editing Software. The course also highlights basic perceptions to final output by using various Video Effects in the Video Editing Software.

Course Outcome

At the end of the course.the Students will be able to:

i. Infer the knowledge of importing and organizing the footage in the Video Editing software
ii. Apply the basic transitions and various Cuts in the Editing
iii. Compare the production shots with Post production process like NG Removal and ordering the scene in the timeline
iv. Analyze the techniques of colour sense and its application in the Video Editing Software
v. Organize the raw footage with special effects and giving the output by using the Video Editing Software

- Importing and Organizing the Footage
- Understanding the three main Windows in Editing Application: Project Window – Source Monitor – Timeline and Display Monitor
- Insert, Overwrite, Extract and Lift
- Various Cuts: Jump Cut – Parallel Cut – Match Cut – Advance Cut
- NG Removal and Ordering in Timeline
- Adding Transitions
- Video Effects and KeyFrame Animation
- Colour Correction and Colour Balancing
- Audio Settings – Audio Tracks – Mixing
- Output Settings – Various types of Output

DMT 3408 RESEARCH PROJECT 4 CREDITS

Course Objective:

This course aims in applying the professional skills and knowledge related to Videography, Photography, Sound and Designing. The course develops the students' ability to work independently consolidating their production in field of Photography, Videography, sound and Designing.

Course Outcome:

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

i. Identify the area of specialization to produce an independent work
ii. Mobilize the resources that are needed for his/her independent work
iii. Utilizethe available resource to produce the project work
iv. Design the final output creatively by using specific software
v. Gains hands on experience in a professional way.

The Project enhances the knowledge and experience by choosing their branch as their specialization in the last semester. They can make their interest as profession by opting any branches in media. The following courses can be the students' choice during the VI Semester. The courses are as follows:

- Photography
- Video Editing
- Sound Design
- Designing Techniques

The students can choose any one of the courses and can specialize the same. They should submit their project at the End of Semester. Both Internal and External will be evaluated for 100 Marks.

VMT 3409 **INTERNSHIP – V** **4 CREDITS**

Course Objective:

The course aims to obtain hands on practical knowledge in capturing, editing and applying visual effects with the aid of Video Editing Software

Course Outcome:

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

i. Able to operate Video Camera individually.
ii. Compose images professionally with Visual Grammar in Video Cameras.
iii. Capture various types of Videos using lighting techniques in Video Camera.
iv. Analyse the techniques filmic time, space and various types of shots in the films.
v. Create a video by using Video Editing Software professionally .

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes a strong foundation in practical and acts as a platform to create a job opportunity in particular field.

As the students focuses during Video Editing in the 5th Semester, they need to work as Video Editor in any Project. The students should undergo minimum of 120 hours internship.

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External))

BLOOM'S TAXONOMY	K1	K2	K3	K4	K5	K6
CO1			3			
CO2					5	

CO3					5	
CO4				4		
CO5					5	

Mean: 4.4

DMT 3410 INTERNSHIP – VI 4 CREDITS

Course Objective:

This course aims to bridge theoretical orientation of CorelDraw and photoshop application into practical exposure. It also gives high work experience in field of designing in a professional way.

Course Outcome:

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

i. Able to apply the basic usage of tools in 3D Animation software.
ii. Compose various modelling techniques in 3D using Maya software
iii. Creating a character and animation with the aid of Animation Software
iv. Able to design various types of 3D models professionally
v. Apply the techniques of visual effects in the existing images independently

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes strong foundation in practical and acts as a platform to create a job opportunity in particular field.

As the students focuses in the field of Designing during VIth Semester, they have to undergo training/ internship in Designing companies with specialization of 3D. The students should undergo minimum of 120 hours internship in a Studio.

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External))