



# Sadakathullah Appa College

\*An Autonomous Institution, Re-Accredited by NAAC at an 'A' Grade, \*ISO 9001 : 2015 Certified\*

## AQAR

(2020 – 2021)

### CRITERION I

#### CURRICULAR ASPECTS

**1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum**

#### Supporting Documents

*Submitted to*

THE NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)





VI SEMESTER			
DSE IV(A)	WOMEN WRITING IN ENGLISH		18UEEN6A
Hrs/ Week: 4	Hrs/ Sem: 60	Hrs/ Unit: 12	Credits: 4

**UNIT I - PROSE**

1. Professions for Women - Virginia Woolf  
 2. The World is Becoming a Toxic Garbage Dump - Maneka Gandhi

**UNIT II - POETRY**

1. Dignity - Bilqees Zafirul Hasan  
 2. Women's Work - Julia Alvarez

**UNIT III - POETRY**

1. Lot's Wife - Kristine Beatty  
 2. Poem - Prathibha Nandakumar

**UNIT IV - SHORT STORIES**

1. The Story of an Hour - Kate Chopin  
 2. The Finest Story in the World - Annie Saumont

**UNIT V - NOVEL**

- And Then There Was None - Agatha Christie

**TEXTBOOKS**

- Jayakumar, Anandhi. *The Flights of Fancy*. Chennai: SciTech Publications (India) Pvt. Ltd. 2010
- Christie, Agatha. *And Then There Was None*. New York: Harper Hollin's publishers, 2011.
- Annapoorni S. and V. Bharathi Harishanker. Ed. *Shifting Perceptions: An Anthology of Women's Writing*. Chennai: Main Spring Publishers, 2016

**REFERENCE BOOK**

- Tharu and Lalitha K, ed. *Women Writing in India*. New Delhi: Oxford University Press, 2006.



IV SEMESTER			
DSC-14	FEMINIST WRITING		18PCEN42
Hrs./Week:6	Hrs./Sem.: 90	Hrs./Unit:18	Credits:4

### Unit I THEORIES

Gayathri Spivak                      Can the Subaltern Speak?

Elaine Showalter                      Towards Feminist Poetics

### Unit II POETRY

Sylvia Plath                              Daddy

Kamala Das                              Forest Fire, The old Playhouse

Maya Angelou                              Still I Rise

Caged Bird

Margaret Atwood                              Journey to the Interior

A Sad Child

### Unit III PROSE

Virginia Woolf                              A Room of One's Own

Doris Lessing                              Nobel Prize Acceptance Speech

### Unit IV DRAMA

George Ryga                              The Ecstasy of Rita Joe

### Unit V FICTION

Kate Grenville                              The Secret River

### TEXTBOOKS:

1. Ryga, George. *George Ryga's The Ecstasy of Rita Joe*. Vancouver: Talonbooks, 1970.
2. Rice, Philip and Patricia Waugh. *Modern Literary Theory: A Reader*. London: Arnold, 2001.
3. Grenville, Kate. *The Secret River*. Edinburgh: Canongate, 2006.



IV SEMESTER			
<b>DSE – II B</b>	<b>WOMEN STUDIES IN INDIA</b>		<b>18UEHS4B</b>
<b>Hrs/Week:4</b>	<b>Hrs/ Sem: 60</b>	<b>Hrs/ Unit: 12</b>	<b>Credits: 4</b>

**OBJECTIVES:**

- To make the students understand the need for change among the women.
- To make them understand the need for the empowerment of women and realization of that goal.
- To understand the various reasons for the secondary status given to the Indian women.
- To estimate the contributions made by pioneering Indian women leaders in uplifting the women folk.

**UNIT I Basic Concepts & Theories:**

Defining Gender -Patriarchy: Ideology & Practice -Relationship between Gender, Caste, Class, Religion & Politics

**UNIT II**

Emergence of Women Studies in India

**UNIT III Gender & Social History:**

Family & Marriage -Women's Question in the 19th century -Women's Movement in Colonial & Post-Colonial in India

**UNIT IV Gender, Law & Politics:**

Political participation -Violence against women & Preventive laws

**UNIT V Gender, Development & Culture:**

Issues of labour & Health - Access to resources - Gender audit

**REFERENCE BOOKS**

1. Kamla Bhasin, Understanding Gender
2. Kamla Bhasin, what is Patriarchy?
3. Madhu VIJ, et al, Women Studies in India, A journey of 25 Years, Rawat, 2014
4. Kumkum Sangari & Sudesh Vaid, Recasting Women, Essay in Colonial History, Kali for women, Reprint, 2006
5. Sushila Kaushik, Panchayati Raj in Action: Challenges to Women's Role, Delhi, 1996
6. Nivedita Menon, Gender & Politics in India, New Delhi, OUP, 1999
7. Women in Print -The change over the last half century in reporting on women & Gender Issues in Indian newspapers, A study by UNIFEM, by Shri Venkatram, 2003



<b>II SEMESTER</b>			
<b>VE1</b>	<b>VALUE EDUCATION - I</b>		<b>18USVE21A</b>
<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Hrs/ Unit: 6</b>	<b>Credit: 2</b>

**Objectives:**

- To inculcate moral values in the minds of students.
- To teach ethical practices to be adopted by students in their life.
- To make students honest and upright in their life.

**UNIT I:**

Islam – Meaning – Importance – A complete Religion – The religion accepted by God – Five Pillars of Islam – Kalima – Prayers – Fasting – Zakat – Haj.

Iman – Monotheism – Angels – Books – Prophets – Dooms Day – Life after death – Heaven and Hell.

**UNIT II:**

Quran – The Book of Allah – Wahi – Revelation to Prophet Muhammad(sal) – Compilation – Perseverance – Structure – Content – Purpose – Source of Islamic Law– Sura Fathiha, Kafirun, Iqlas, Falakh and Nas.

**UNIT III:**

Hadith – Siha Sitha – Buhari – Muslim – Tirmithi – Abu Dawood – Nasai – Ibn Maja – Collection of Hadith – Meaning of 40 Hadith.

**UNIT IV:**

Life History of Prophet Muhammad (sal) – Aiamul Jahiliya – Prophet's Childhood and Marriage – Prophethood – Life at Mecca – Life at Medinah – Farewell Address – Seal of Prophethood.

**UNIT V:**

Good character – Etiquettes – Halal and Haram – Duties towards Allah – Duties towards fellow beings – Masnoon Duas.

**REFERENCE BOOKS:**

1. V.A. Moahmed Ashrof – Islamic Dimensions – Reflection and Review on Quranic Themes.
2. The Presidency of Islamic Researchers – Revised & Edited – The Holy Quran.
3. M. Manzoor Nomani – Islamic Faith & Practice.
4. Abdul Hasan Ali Nadvi – Muhammad Rasulullah.
5. K. Ali – A Study of Islamic History.
6. Abdul Rahuman Abdullah – Islamic Dress code for Women.
7. Dr. Munir Ahamed Mughal – Code for Believers.
8. Abdul Malik Mujahid – Gems and Jewels.



II SEMESTER			
VE2	VALUE EDUCATION - II		18USVE21B
Hrs/ Week: 2	Hrs/ Sem: 30	Hrs/ Unit: 6	Credit: 2

**UNIT I:**

Individual Morality – Objective of Moral life – Living in accordance with the code of Morality – the goodness of Morality – Morality and *Thirukural* – The need for faith.

**UNIT II:**

Adherence to higher code of Morality – Fear of God – Good Moral Values – Duty to Parents – Teacher, respecting elders – Moral Etiquettes – Right-minded Principle – High Principles for Proper conduct.

**UNIT III:**

Inculcating good attitudes – Open mindedness – Morale – analysing the pros and cons of good and bad – Service to others – Mind Power, tolerance, respecting others, showing love to others, patience – tranquility – Modesty, kindness and forgiveness.

**UNIT IV:**

Quotations and moral Stories expressing Good characters of Great personalities – Life History of Great people: Mahatma Gandhi, Abraham Lincoln, Dr. A.P.J. Abdul Kalam.

**UNIT V:**

Truth, the importance of uprightness, integrity, friendship – Health awareness on Alcohol and drug abuse – inculcating reading habit – reading good books – Hygiene – Dowry – Corruption.

**TEXTBOOK:**

Publication of Sadakathullah Appa College.



<b>I SEMESTER</b>			
<b>EVS</b>	<b>ENVIRONMENTAL STUDIES</b>		<b>18UENS11</b>
<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Hrs/ UNIT: 6</b>	<b>Credits:2</b>

**UNIT I: Nature of Environmental Studies**

Goals, Objectives and guiding principles of environmental studies. Towards sustainable development - Environmental segments- Atmosphere, Hydrosphere, Lithosphere, Biosphere - definition. Pollution episodes - Hiroshima - Nagasaki, - Bhopal gas Tragedy, Fukushima. Stone leprosy in Taj Mahal

**UNIT II: Natural Resources**

Renewable and Non-Renewable resources - classification.

- Forest resources: Use and over - exploitation, Afforestation and deforestation.
- Water resources: Use and over - utilization and conservation of surface and ground water - Rain harvesting.
- Marine Resources: Fisheries and Coral reefs.
- Mineral resources: Use and exploitation - environmental impacts of extracting and using mineral resources.
- Food resources: Effects of modern agriculture fertilizers - pesticide problem.
- Energy resources: Growing energy needs - use of alternate energy source - Solar cells & windmills.
- Land resources: Land degradation

**UNIT III: Ecosystem**

- Concept of Eco-systems - Tropic level, food chains, food web and Ecological pyramids, Living conditions on other planets (Brief account).  
Types, structure & Functions of the following:

- a) Aquatic ecosystem
- b) Grassland ecosystem
- c) Forest ecosystem
- d) Desert ecosystem

**UNIT IV: Biodiversity & Its Conservation**

Introduction - Definition: ecosystem diversity, species diversity and Genetic diversity. Hot spots of biodiversity - Western Ghats, Eastern Himalayas and Gulf of Mannar. Threats to biodiversity - Habitat Loss, Poaching of wildlife and Man - wildlife conflicts.

Conservation of biodiversity: *In-situ* and *Ex-situ*.

**UNIT V: Environmental Pollution**

Sources, effects, prevention and control measures of the following.

- a) Air pollution: Composition of clean air, Global warming, Ozone layer depletion.
- b) Water Pollution: Fresh water and Marine water.
- c) Noise Pollution
- d) Soil pollution

Biodegradable and Non-Biodegradable wastes; Environmental Acts

- Air (prevention & Control of Pollution) Act.
- Environmental Protection Act
- Water (Prevention & Control of pollution) Act
- Environmental movements - Green peace and Chipco movement.
- Role of Central & State pollution Control Boards.

**REFERENCE BOOKS:**

1. Basic of Environmental Science. Vijayalakhmi, Murugesan and Sukumaran - Manonmaniam Sundaranar University publications.
2. Environmental Studies. John de Brito, Victor, Narayanan and Patric Raja - published by St. Xavier's College, Palayamkottai, 2008.
3. Environmental Science and Biotechnology. A.G. Murugesan and C. Raja Kumar - MJP Publishers.
4. Fundamental of Environmental pollution - Krishnan Kannan - Chand & Company Ltd., New Delhi, 1997.
5. Environmental Studies. S. Muthiah, Ramalakshmi publications, Tirunelveli.
6. Environmental Studies. V.M. Selvaraj, Bavani Publications, Tirunelveli.



II SEMESTER			
DSC 4	ECOLOGY AND EVOLUTION		18UCZO22
Hrs/Week: 4	Hrs/Sem: 4 x 15 = 60	Hrs/UNIT:12	Credits:4

**Objective:**

To understand the principles and applications of Ecology to know the origin of species.

**UNIT - I Ecology and Environmental Science**

Ecology and Environmental Science - Definition - Scope - Branches - Abiotic factors - Water, Temperature and Light. Biotic factors - Animal relationship - Symbiosis - Commensalism - Mutualism - Antagonism - Antibiosis - Parasitism and its types and adaptations - Predation - Competition

**UNIT - II Ecosystem**

Ecosystem - Definition Structure - Pond ecosystem - Primary production - Secondary production - Food chain - Food web - Trophic levels - Energy flow - Pyramid of biomass - Pyramid of energy

**UNIT - III Community & Population Ecology**

Community Ecology: Characteristics, types and patterns of Ecological succession.

Population Ecology - Definition - Density - Estimation - Natality - Mortality - Age distribution - Age pyramids - Population growth and Population equilibrium.

**UNIT IV Theories of Evolution**

Lamarckism, Darwinism, Neo-Lamarckism, Neo-Darwinism, Mutation theory of De Vries and Modern synthetic theory.

**UNIT V Variation and Human evolution**

Variation-sources of variability - mutation, recombination & hybridization - Population genetics-Hardy-Weinberg law, isolating mechanisms: Speciation. Human evolution (fossil evidences only) Mimicry and Colouration.

**TEXTBOOKS:**

1. P.S.Verma, V.K.Agarwal. Environmental biology, S. Chand & Co. New Delhi.
2. TEXTBOOK of Ecology & Animal Distribution by P.S. Verma V.K. Agarwal S. Chand & Co. New Delhi.
3. Veer Bala Rastogi. Organic Evolution-2014. Kedar Nath Ram Nath Educational publications.

**REFERENCE BOOKS:**

1. Odum, E.P., 1971 - Fundamentals of Ecology., W.B. Saunders Company, Philadelphia.
2. Clarke.G.L (1954) - Elements of Ecology, John wiley & Son Inc. New York.
3. Ananthakrishnan. T.N and S. Viswanathan Principles of Animal Ecology
4. Koromondy E.J.(1976) - Concepts of Ecology - Meeven.
5. Kendeigh, S.C., 1961 - Animal Ecology, Prentice Hall
6. Rastogi, V.B. and M.S. Jayaraj, 1989 - Animal Ecology and distribution of animals, Kedarnath Ramnath.



II SEMESTER			
<b>DSE-2A</b>	<b>ECO LITERATURE</b>		<b>18PEEN2A</b>
<b>Hrs./Week:4</b>	<b>Hrs./Sem.: 60</b>	<b>Hrs./Unit:12</b>	<b>Credits:4</b>

### Unit I POETRY

William Wordsworth	Daffodils
Robert Frost	Stopping by a Woods on a Snowy Evening
Sarojini Naidu	The Bird of Time
Joy Harjo	Remember
Alison Hawthorne Deming	Human Habitat

### Unit II POETRY

Dylan Thomas	Fern Hill
Rudyard Kipling	The Way through the Woods
Emily Dickinson	There is Another Sky
John Keats	To Autumn

### Unit III PROSE

Introduction to Eco-Criticism (From *Beginning Theory*) By Peter Barry

### Unit IV SHORT STORIES

John Steinbeck	Chrysanthemums
Hemingway	Snows of Kilimanjaro
Anton Chekhov	A Day in the Country
Doris Lessing	A Mild Attack of Locusts

### Unit V FICTION

Amitav Ghosh	The Hungry Tide
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### TEXTBOOKS:

1. Barry, Peter. *Beginning Theory: An Introduction to Literary and Cultural Theory*. 2<sup>nd</sup> ed. New Delhi: Viva books, 2008.
2. Ghosh, Amitav. *The Hungry Tide*. Boston : Houghton Mifflin, 2005.



III SEMESTER			
DSE 1A	POLYMER CHEMISTRY		18UECH3A
Hrs / Week: 4	Hrs / Sem: 60	Hrs / Unit: 12	Credit: 4

### UNIT I - Polymer and its types

Polymer- Natural and synthetic polymers - General characteristics of a polymer - Distinction among plastics, elastomers and fibres. Homo and heteropolymers. Copolymer - tacticity - isotactic, atactic and syndiotactic polymers - Functionality - Linear, branched and cross linked polymers - Plastics, Thermosetting and thermoplastics - Types of polymerization - addition, condensation and copolymerization (Mechanism not required).

### UNIT II - Methods of polymerization and synthesis of some important polymer

Methods of polymerization - bulk, suspension, emulsion and solution polymerization

Synthesis, properties and applications of Phenol - formaldehyde resin, Melamine - formaldehyde resin, Polyurethanes, Polycarbonates, Natural rubber, Vulcanization of rubber, synthetic rubber - styrene rubber, nitrile rubber and neoprene rubber

### UNIT III - Synthetic polymers

Synthesis, properties and application of - Polyethylene - HDPE, LDPE, LLDPE - Polypropylene - Polyvinyl chloride - grades of PVC - Teflon, Polymethylmethacrylate (plexiglass) - Polyamide - Nylon 6, Nylon 66, Cellulose acetate and Cellulose nitrate.

### UNIT IV - Physical states and biomedical applications of polymers

Synthesis of intermediates - Terephthalic acid, Caprolactum and Hexamethylenediamine - Molecular mass - number average, weight average, viscosity average molecular mass - Determination of molecular mass by viscosity and light scattering method - practical significance of molecular mass distribution - size of polymers. Kinetics of free radical polymerization - Carother's equation - Bio - medical applications of polymers.

### UNIT V - Properties and processing of polymers

Glassy state - glass transition temperature, factors affecting glassy state - crystallinity in polymers, viscosity, solubility, optical, electrical, thermal and mechanical properties of polymers. Degradation of polymers by thermal, oxidative, mechanical and chemical methods - Polymer processing - Compression moulding, injection moulding, transfer moulding.

### REFERENCE BOOKS:

1. Polymer science - V.R Gowarikar, N.V Viswanathan and J. Sreedhar 2000; New Age International (P) Ltd., New Delhi.
2. TEXTBOOK of polymer science - F.W. Billmeyer.1984; A Wiley-Interscience Publication, John Wiley & Sons New York.
3. TEXTBOOK of polymer science - P.L. Nayak & S. Lenka, 2000; Kalyani publishers, New Delhi.



III SEMESTER Part IV - Non Major Elective			
<b>NME-I</b>	<b>WATER MANAGEMENT</b>		<b>18UNCH31</b>
<b>Hrs / Week: 2</b>	<b>Hrs / Sem: 30</b>	<b>Hrs / Unit: 6</b>	<b>Credit:2</b>

### **UNIT I: WATER POLLUTION**

Definition - sources of water pollution - types of water pollutants: sewage and domestic wastes, industrial effluents, agricultural discharges, detergents, disease causing agents and radioactive materials. Eutrophication and its effects.

### **UNIT II: WATER QUALITY PARAMETERS**

Physical, Chemical and biological water quality parameters - water quality standards for drinking water - BIS, ICMR and WHO. Determination of pH, Total hardness, TDS, DO, BOD and COD.

### **UNIT III: WATER PURIFICATION**

Purification of water: Sedimentation, Filtration, disinfection, water softening permutit process, ion - exchange process, reverse osmosis.

### **UNIT IV: WASTE WATER TREATMENT**

Elementary ideas of waste water treatment: pre - treatment - primary treatment - secondary treatment, Trickling and activated sludge process - tertiary treatment: evaporation, adsorption - chemical precipitation

### **UNIT V: RESTORATION AND MANAGEMENT**

Importance of lakes and rivers - stresses on the Indian rivers and their effects - A restoration case study: Ganga Action plan: objectives implementation and drawbacks. Rain water harvesting - water recycling - The water prevention and control Pollution Act 1974.

### **REFERENCE BOOKS:**

1. Environmental Chemistry, A.K. De, Wiley Eastern Ltd. New Delhi
2. Environmental Chemistry, B.K. Sharma, Geol Publishing House, Meerut.
3. Chemical and Biological methods for water pollution Studies, R.K. Trivedy and P.K. Geol Environmental Publications, Karad, India.
4. BIS 1991, Specification for drinking water, Bureau of Indian Standards, New Delhi
5. WHO 1992, International standards for Drinking water, World Health Organisation, Geneva.
6. Environmental Science and Biotechnology - Theory and Techniques - A.G. Murugesan, C. Rajakumari, MJP Publishers, 2005.



IV SEMESTER			
<b>DSE 2A</b>	<b>CHROMATOGRAPHY</b>		<b>18UECH4A</b>
<b>Hrs / Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs / Unit: 12</b>	<b>Credit: 4</b>

#### **UNIT I - Basic Concepts of chromatography:**

Introduction - Classification based on principle - Adsorption Chromatography methods - Column Chromatography - Principles, experimental procedures, stationary and mobile phases, Choice of Solvent Systems based on polarity, Separation techniques. Applications

#### **UNIT II - Paper Chromatography**

Principle,  $R_f$  values, Factors affecting  $R_f$  values, Experimental procedures, Choice of paper and solvent systems, developments of chromatogram. Detection of the spots. Ascending, Descending and Radial Paper Chromatography, Two Dimensional Chromatography - Applications - separation of amino acids from a mixture.

#### **UNIT III - Thin - Layer Chromatography**

Principle - Experimental Procedures. Choice of adsorbents and Solvents. Preparation of plates. Development of the Chromatogram. Detection of the spots. Advantages of thin Layer Chromatography over paper chromatography. Applications- Characterizing and isolation of organic compounds- Alcohols, Alkaloids, Amines, Amino acids and antibiotics.

#### **UNIT IV - Ion Exchange Chromatography**

Principle, ion exchange resins and their types - cation exchange resins, anion exchange resins, ion exchange equilibria, properties of ion exchange resins, ion exchange capacity, techniques - applications of ion exchangers- removal of interfering radicals- separation of similar ions from one another, lanthanides, sugars and amino acids.

#### **UNIT V - High Performance Liquid Chromatography**

Introduction, Instrumentation, Stationary and Mobile Phases. Mobile Phase - Composition. Column - Preparation, Cleaning - regeneration and Storage Conditions. Retention time - Types of HPLC.

#### **REFERENCE BOOKS:**

1. Fundamentals of Analytical Chemistry - D.A. Skoog, D.M. West, F.J. Holler and S.R. Crouch 2004; Thompson Asia Private Ltd., Bangalore.
2. Instrumental Methods of Analysis - B.K. Sharma, 2003; Goel publishing House, Meerut, India.
3. Contemporary Chemical Analysis - Judith F. Rubinson, Prentice Hall (India).
4. An introduction to Chromatography - H. Kaur, 2001; Pragati Prakashan, Meerut, India.
5. Laboratory Manual for Analytical Biochemistry & Separation Techniques - P. Palanivelu, 2000; School of Biochemistry, MK University, Madurai
6. Instrumental Methods of Chemical Analysis, Gurdeep R. Chatwal and Sham Anand, 1997, Himalaya Publishing House, Mumbai.



IV SEMESTER			
DSE 2B	DAIRY CHEMISTRY		18UECH4B
Hrs / Week: 4	Hrs / Sem: 60	Hrs / Unit: 12	Credit: 4

### UNIT I: PROPERTIES OF MILK

Milk – definition - composition - physico chemical properties – colour, odour, acidity, specific gravity, conductivity of milk – Indian standards of milk. Factors affecting composition of milk - food and nutritive value. Physico-chemical properties of milk constituents – water, fat, proteins, lactose and mineral matter. Action of milk on metals. Flavour defects in milk - their causes and prevention - uses of milk. Estimation of fat, acidity and total solids in milk.

Adulterants in milk – definition, common adulterants and their detection. Preservatives in milk – definition, common preservatives and their detection. Neutralizers in milk – definition, the different types of neutralizers and their detection.

### UNIT II: MICROBIOLOGY OF MILK

Introduction, growth of micro-organisms, destruction of micro-organisms – heat treatment, use of ionizing radiation, electricity, high frequency sound waves and application of pressure. Pasteurization – definition, objectives and requirements of pasteurization. Methods of pasteurization – in-the-bottle pasteurization, batch / holding pasteurization or Low-Temperature – Long Time pasteurization (LTLT), High Temperature – Short Time pasteurization (HTST), Ultra-High Temperature pasteurization (UHT), Uperization (Ultra-pasteurization), vacuum pasteurization (vacreation) and stassanization.

Dairy detergents – definition – desirable properties, different types, cleaning and sanitizing procedure, cleaning-in-place (CIP). Sterilizers – definition – desirable properties – cleaning and sterilization of dairy utensils – Chloramine – T and hypo chlorite solution.

### UNIT III: SPECIAL MILKS

**Sterilized milk** – definition, requirements, advantages and disadvantages and method of manufacture. Homogenized milk – definition, merits and demerits method of manufacture.

**Flavoured milks** – definition, purpose, types of flavoured milks, method of manufacture. Chocolate flavoured milk and Fruit flavoured milk. Vitaminized milk – definition, purpose Standardized milk – definition, merits, method of manufacture. Toned milk (single and double toned milk) – manufacture. Humanized Milk.

**Dried milk:** Definition, composition, objectives of productions - principle involving in manufacture, food and nutritive value, role of milk constituents, keeping quality.

**Condensed Milk:** Definition, composition, objectives of productions - principle involving in manufacture of condensed milk (flow chart and explanation) - uses of condensed and evaporated milk. Types of condensed milk – plane condensed milk, super heated condensed milk, frozen condensed milk.



IV SEMESTER			
SBE 2	MEDICINAL BOTANY AND HORTICULTURE		15UZOS41
Hrs/Week: 3	Hrs/Sem: 3x15=45	Hrs./UNIT: 9	Credit: 2

**Objectives:**

- To know about the values of ethnomedicine.
- To identify and classify the common medicinal plants.
- To enable the students to know about the latest Horticultural Techniques and to enrich themselves on the modern developments in ornamental garden.

**UNIT I**

Introduction to Herbal Medicine. Traditional systems of medicines: Ayurvedic, Homeopathy, Siddha and Unani. Traditional knowledge on medicinal plants and conservation of medicinal plants.

**UNIT II**

Classification of medicinal plants - Based on Morphology of plant parts used, Active Principles and Therapeutic Values.

**UNIT III**

Study of the following medicinal plants with reference to morphology of the plants - Botanical name, Common name, Active Principle and its Therapeutic Value - Ginger, Fenugreek, Coleus, Vetiver, Phyllanthus and Asafoetida.

**UNIT IV**

Introduction to horticulture - Importance and Division. propagation of horticultural crops - cutting, Grafting, Budding and Layering.

**UNIT V**

Importance, Principles and designs of ornamental garden - layout and components of ornamental garden - Lawn, Indoor gardening and rockeries, Bonsai and Hanging pots, Flower arrangement.

**REFERENCE BOOKS:**

1. Craker, Lyle. E, 1988, Herbs, Spices & Medicinal plants: Recent advances in Botany, Oryx Press, Phoenix, Arizona.
2. Vijay Verma 2008, Dictionary of medicinal plants, Anmol publication. New Delhi.
3. M.I.H. Farooqi, 2004, Medicinal plants in the traditions of prophet Mohamed: Scientific study of prophetic medicine, Vedoms Books (P) Ltd. Sidrab Pub. Lucknow.
4. Walter H. Lewis et al. 2003, Medical botany plants affecting human health 2<sup>nd</sup> Edition, Wiley publishers, New York.
5. Kokate. C.K., Purohit, A.P. Gokhale, S.B, 2007, Pharmacognosy, Nirali Prakashan Publishers, Pune.
6. Jyothi Prakash E.J, 2006, Medicinal botany and pharmacognosy, Emkay publishers, New Delhi.
7. Edmund Senn, Andrew, Halfacre, 1977, Fundamentals of horticulture, Tata McGraw-Hill, New Delhi.
8. Manibhusan Rao, K, 1991, Text book of Horticulture, McMillan India, New Delhi.
9. Kumar, 1987, Introduction to Horticulture, Rohini Agencies, New Delhi.



IV SEMESTER			
DSE - 2A	MUSHROOM CULTURE		18UEBT4A
Hrs/ Week: 4	Hrs / Sem: 4 x 15 = 60	Hrs/ Unit: 12	Credits:4

### Objectives

To enable the students

- To know the various types of edible mushrooms and their nutritional value.
- To understand the method of cultivation of edible mushroom and spawn production.

### UNIT - I

Introduction - History - Scope & Importance of edible mushroom cultivation - Types of Edible & Poisonous mushrooms in India.

### UNIT - II

Spawn preparation: Preparation of pure culture, media used in raising pure culture, Culture maintenance, Facilities required for spawn preparation, Preparation of spawn substrate, storage of spawn..

### UNIT - III

Cultivation technology of Oysters, Button and Milky mushrooms (Mass cultivation), Storage of mushroom.

### UNIT - IV

Nutrient Profile of Mushrooms. Problems encountered in mushroom cultivation techniques and its commercial exploitation.

### UNIT - V

Mushroom Recipes: Preparation of various dishes like Mushroom Sabji, Mushroom Achar, Mushroom khir, Mushroom soup, Mushroom Pakoda, Mushroom Papad. Cutlet, Omelette Samosa, Curry, Soup Powder and Idly chutney powder.

**Field visit to Mushroom farm and Oneday Training on Mushroom cultivation.**

### TEXTBOOK:

Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.

### REFERENCES:

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
2. Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
3. Paul Stamets, J.S. and Chilton, J.S. (2004). Mushroom Cultivator: A practical guide to growing mushrooms at home, Agarikon Press.
4. Shu-Ting Chang, Philip G. Miles, Chang, S.T. (2004). Mushrooms: Cultivation, nutritional value, medicinal effect and environmental impact, 2nd ed, CRC press.



IV SEMESTER			
DSE - 2B	ORGANIC FARMING		18UEBT4B
Hrs/ Week: 4	Hrs / Sem: 4 x 15 = 60	Hrs/ Unit: 12	Credits:4

### Objectives

To enable the students

- To learn the definition of organic farming.
- To know the various types of organic farming and their importance.
- To learn the production of various organic farming.

### UNIT I

Soil Science, Brief Account of Soil Profile; Fertility of Soil – Importance of Organic Matter – Water Retentivity and Aeration of Soil.

### UNIT II

Organic Manure, Types, Animal Wastes – Cattle Dung, Urine, Poultry Wastes, Slaughter Wastes, Piggery and Fishery Wastes.

### UNIT III

Plant wastes – Fallen leaves and Twigs – Humus Formation, Green Manuring – Mulching – Leaves of Trees like Pongamia, Gliricidia, Azadirachta, Calotropis – Compost making.

### UNIT IV

Biofertilizers: Rhizobium-Importance, Mass Production and Application, VAM Fungi - Mass production and Applications.

### UNIT - V

Vermicomposting – Importance, Application and Production of Vermicompost; Preparation and importance of Panchagavya foliar spray.

### REFERENCES:

1. Dubey, R.C. 2006, A TEXTBOOK of Biotechnology, S. Chand and Company Ltd. New Delhi.
2. ICAR, 1980. Handbook of Agriculture, Indian Council of Agricultural Research, New Delhi.
3. John Jothi Prakash, E. 2006. Outlines of Biotechnology. Emkay Publications, New Delhi.
4. Mark Coyne, 2004. Soil Microbiology- An Exploratory Approach. Delmar Publishers, Singapore.
5. Miller, C.E. and Turk, L.M. 2002. Fundamentals of Soil Science. Biotech Books, New Delhi.



III SEMESTER			
<b>AII -1</b>	<b>PLANT DIVERSITY &amp; PLANT PATHOLOGY</b>		<b>18UABT31</b>
<b>Hrs/Week: 4</b>	<b>Hrs/Sem: 4 x 15 = 60</b>	<b>Hrs/UNIT:12</b>	<b>Credits: 3</b>

**Objectives:** To enable the students

- To have a general understanding about the diverse group of plants and observe the variations among the plants.
- To identify the different plants by morphological and anatomical studies.
- To have a comprehensive knowledge of Algae, Fungi, Bryophyte, Pteridophytes, Gymnosperms and Angiosperms.

#### **UNIT I - Algae & Fungi**

Algae - General characters of algae: structure, reproduction & life cycle of *Sargassum*. Economic importance of algae. Fungi - General characters of fungi: structure, reproduction & life cycle of *Albugo*. Economic importance of fungi.

#### **UNIT II - Lichens and Bryophytes**

General characters of lichen - Types - Crustose, Foliose, Frustricose. Bryophytes- General characters of Bryophyte. Distribution, structure reproduction & life history of *Marchantia*. Economic importance of bryophytes.

#### **UNIT III - Pteridophytes & Gymnosperms**

Pteridophytes- General characters, Structure, reproduction & life cycle of *Lycopodium*. Gymnosperms - General characters, Structure, reproduction & life cycle of *Pinus*. Economic importance of gymnosperms.

#### **UNIT IV - Taxonomy**

Brief account on Classification: Natural - Bentham & Hooker. Morphology and reproductive characters of flowering plants (Phyllotaxy and inflorescence). Study of the following families - Rutaceae, Asclepiadaceae, Euphorbiaceae, Poaceae.

#### **UNIT V - Plant pathology**

Introduction to plant pathology - Tikka disease of groundnut, Citrus canker, Bunchy top of banana, Red rot of sugarcane and Late blight of Potato - causal organism, symptoms, disease cycle and control measures.

#### **TEXTBOOKS:**

1. Pandey B.P. 2001. College Botany Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd, New Delhi.
2. Vashishta, B.R. 2008. Botany for Degree Students - Vol I Algae.
3. Sethi, I.K. and Walia, S.K. 2011. TEXTBOOK of Fungi and Their Allies, Macmillan Publishers Pvt. Ltd. Delhi.

#### **REFERENCE BOOKS:**

1. Pandey B.P. 2001. College Botany Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd, New Delhi.
2. Parihar, N. S. 2001. Bryophyta - Central Book Depot Publications in Botany, Allahabad
3. Vashista, B R. 1997, The Algae, S. Chand & Co. Ltd... New Delhi
4. Pandey, B.P. 1997 - Taxonomy of Angiosperms - S. Chand & Co., New Delhi.
5. Power, D. General Microbiology, 1986, Himalaya Publishing House, Bombay.
6. Gangulee, Das & Datta, College Botany Vol I. 1986, New central book agency, Kolkata.
7. Vashishta, P.C., Sinha, A.K. Kumar, A., 2010. Pteridophyta, S. Chand. Delhi. India.



II SEMESTER		
C8	<b>ANIMAL BIOTECHNOLOGY</b>	15PZOC24
Hrs / Week : 6	Hrs / Sem : 90 Hrs/ Unit : 18	Credit:5

**Objectives:** Recent branch of biology explaining basic applications of recombinant DNA technology, gene transfer and transgenecity. Deals with applications of biotechnology in the field of medicine like cell culture, drug delivery systems and gene therapy; in industries, like production of biopolymers, biofertilizers, SCPs and GEMs..

### UNIT I BIOTECHNOLOGICAL TOOLS AND TECHNIQUES

Definition - principles and methods of recombinant DNA technology –exonuclease, endonuclease -Source of Gene, genomic, cDNA libraries – rDNA strategy, selection, insertion, culture, recovery, screening; Insertional, blotting, PCR, DNA sequences. Plasmids -pBR322, Ti plasmid, bacteriophage, M13, cosmids, phasmids, yeast shuttle vectors, transposons, bacterial artificial chromosome.

### UNIT II DNA TECHNIQUES

Gene and gene function - gene transfer system - transgenic animals - production and application - animal bioreactors - targeted gene transfer; genome maps and human genome project - molecular markers – Restriction Fragment Length Polymorphism (RFLP) - Randomly Amplified Polymorphic DNA (RAPD) - Variable Number of Tandem Repeats (VNTR) - Short Tandem Repeats (STR), chromosome jumping - chromosome walking - DNA finger printing – DNA chip technology – biosensors and their applications.

### UNIT III GENETIC ENGINEERING FOR HUMAN WELFARE

Animal cell and tissue culture - mammalian cell lines and their characters - media for the cultivation of mammalian cells - large scale cultivation of mammalian cells - cell culture products - organ culture technique - Somatic cell fusion and hybridoma technology - monoclonal antibodies production and applications - disease prevention, disease diagnosis and disease treatment - drug designing and drug delivery systems - gene therapy – pharmacogenetics and pharmacogenomics. *In vitro* fertilization and embryo transfer.



## **UNIT IV BIOTECHNOLOGY AND INDUSTRY**

Industrial microbiology - isolation and screening of micro organisms - strain improvement - bioreactor - downstream processing - practical applications – antibiotic synthesis - Single Cell Proteins (SCP) and myco protein - production and application. Enzyme technology – immobilization of enzyme and its uses. Bioethics.

## **UNIT V ENVIRONMENTAL BIOTECHNOLOGY**

Bioenergy – Biofuels - Biodiesel - Biogas production technology - biogas from waste water .Biopesticide, biofertilizer. Genetically Engineered Microbes (GEMS) - bioremediation, bioremediation for marine oil spills - types of bioremediation ,bioleaching; microbial degradation of xenobiotics.Short account on Synthetic biology

### **REFERENCE BOOKS:**

1. Dubey R.C. Text book of biotechnology, 2012. S.Chand & company Limited, New Delhi.
2. Gupta .P.K. Biotechnology and Genomics.2013. Rastogi Publications, Meerut.
3. Atherly, Girton and McDonald, The Science of Genetics 1999. Harcourt College Publications.
4. Singh.B.D. Genetic Engineering and Animal Biotechnology,2005. Kalyani Publishers, Chennai – 17.
5. Kingsman,S.M and Kingsman.A.J. Genetic Engineering: An Introduction to Gene Analysis and Exploitation in Eukaryotes.1988. Blackwell Science Inc Publications.
6. M. W. Strickberger. 2005. Genetics.3<sup>rd</sup> Edition, Prentice-Hall, India
7. Bruce Alberts,Alexander Johnson,Julian Lewis,Martin Raff,Keith Roberts,Peter Walter. Molecular Biology of the Cell.5<sup>th</sup> Edition,2007. Garland Science.



III SEMESTER			
<b>NME 1</b>	<b>ORNAMENTAL FISH CULTURE</b>		<b>15UZON31</b>
<b>Hrs/Week: 3</b>	<b>Hrs/Sem: 3x15=45</b>	<b>Hrs./UNIT: 9</b>	<b>Credit: 2</b>

**OBJECTIVES:**

- > To create interest in self employment and to earn income by developing the skills.
- > To understand the techniques in culture.

**UNIT I**

Introduction - Entrepreneurship - Scope of Ornamental fish culture - Types of Aquaria - setting up of tanks - accessories for fish tanks - Ornamental plants.

**UNIT II**

Popular ornamental fishes: selecting a healthy fish - Egg laying fishes (Siamese fighting fish, Gowrami, Goldfish, Zebra and Angel fish) and Live bearing fishes (Molly, Guppy and Sword tail).

**UNIT III**

Food and feeding: Natural feed - Artificial feed - Balanced diet. Aquarium management: water capacity and number of fishes in an aquarium (tank fish ratio).

**UNIT IV**

Common Ornamental fish diseases and their treatment: Bacterial, Viral, Fungal, Protozoan and Parasitic diseases (any three diseases in each category).

**UNIT V**

Transport of fishes - Economics of commercial farming - Tips for maintaining a healthy aquarium.

**TEXT BOOK**

C.S. Tharadevi K.V. Jayashree. Home Aquarium. Saras Publications, Nagercoil.

**BOOKS FOR REFERENCE:**

1. Jameson J. D and Santhanam R., (1996) - Manual of Ornamental Fishes and Farming Technologies. Fisheries College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Tuticorin.
2. Dolakia, A. D. (2009) - Ornamental Fish Culture and Aquarium Management, Daya Publishing House, Delhi - 52.
3. Meenakshi Jindal, Yadava N. K and Gupta R.K., (2010) - Fresh Water Ornamental Fishes. Mangalam Publications, Delhi - 53.

Non-major Elective subject offered by the Department of Zoology to other Major Students



III SEMESTER			
DSE 3B	APICULTURE		18PEZO3B
Hrs / Week : 4	Hrs / Sem : 60	Hrs/ Unit : 12	Credits: 4

**Objective:** To provide knowledge on apiculture, maintaining bee hives, problems and prospects.

#### UNIT I

Definition, scope, honey bee- classification of bees- rock bee, Indian bee, littlebee and dammer bee – their identification and habits – choice of species in apiculture. Bee colony – distinctive features and identification of queen, drones and workers, functions of the members. - Anatomy and organ system of honey bee. - Development of honey bee – egg, larva and pupa – time taken for the development of queen, drone and worker, life history of *Apis cerana indica*.

#### UNIT II

Apiculture techniques, arranging an apiary position – space, acquiring bees – care of newly captured colonies – handling the bees. - Bee keeping – primitive methods – modern methods. The bee hive and its architecture – different kinds of cells – burr comb. - Different types of hives – their identification, artificial hives their advantages – parts of artificial hive – other appliances used in apiaries.

#### UNIT III

Honey bee products. - Honey – extraction of honey – preservation and storage of honey – properties, chemical composition, nutritive value, medicinal values – honey as daily food. - Bee wax – production – method of extraction – characteristics and uses. - Bee venom – methods of extraction of venom – composition of venom – curative value

#### UNIT IV

Enemies of bees – greater wax moth, lesser wax moth, ants wasps, lice, beetles and birds and their control.

Diseases of bees – adult and brood diseases – prevention and control measures.

#### UNIT V

Swarming – prevention and control. - Robbing and fighting – prevention and control. - Uniting stocks – different methods - Queen rearing and introduction - Supersedure - Foraging - Inter- relationship of plants and bees.

#### REFERENCE BOOKS :

1. Abrol, D.P.-Bees and Bee keeping in India. Kalyani Publishers, B.1/1292, Rajinder Nagar, Ludhiana- 141 008.
2. Abrol, D.P.Honey bee Diseases and their Management, Kalyani Publishers, B.1/1292, Rajinder nagar, Ludhiana- 141 008.
3. Johnson, J. and I. Jeyachandra- Apiculture –Dept. of Zoology, N.M. Christian College, Marthandam.- 629 165.
4. Cherian MC and Ramachandran, Bee keeping in South India
5. Sharma P.L.& Singh S.-Hand book of Bee Keeping, Printing and stationary, Chandigarh.



I SEMESTER		
DSE 1A	ECOLOGY	18PEZO1A
Hrs/Week: 4	Hrs / Sem :60      Hrs/ Unit : 12	Credits :4

**Objectives:** To acquire knowledge on eco system, components, functions, resources and pollution management.

### UNIT I ECOSYSTEM

**Ecosystem:** Concept – types - stability - food chain and food web – Ecological pyramids – energy flow in an ecosystem. Biochemical cycles: Carbon, nitrogen, oxygen, phosphorous and sulphur. **Productivity:** Primary productivity process – productivity of different ecosystems – measurement of primary productivity, Biogeography-major terrestrial biomass, island Biogeography, biogeographical zones of India. (r and k selection)

### UNIT II POPULATION AND COMMUNITY ECOLOGY

**Population:** Attributes, characters- growth curves and regulation - life history strategies – competitive niche- concept. Biotic and abiotic interactions, community -nature, structure, attributes, edges and ecotones

### UNIT III BIODIVERSITY AND CONSERVATION

**Biodiversity:** Genetic – species and ecosystem diversity, measurements - **Diversity indices:** Shannon-Weiner- Diversity an ecosystem processes. Hotspots – values and uses of diversity – loss of animal diversity – rare and Endangered species – red list –**Conservation practices:** Wildlife sanctuaries – National parks and biosphere reserves – tiger, major habitat types of the subcontinent.

### UNIT IV RESOURCE MANAGEMENT

**Resources:** Natural resources – renewable and non-renewable resources. **Forest resources:** Renewable resources: Ecological and economic importance of forest – types and management –Nonrenewable resources. **Water resources:** Worldwide supply – renewable and distribution – Indian water resources – river water disputes. **Energy resources:** energy resources types: solar, wind, hydel, tidal energy and biomass.

### UNIT V POLLUTION AND ENVIRONMENTAL AWARENESS

**Pollution:** Air, water, soil, noise, thermal pollution – sources, effects and control measures – Nuclear hazards. **Social issues and environment:** Urban environmental problems –solid waste management, Succession-types, mechanism, concept of climax. Species interaction-inter and intra specific interaction, symbiosis-herbivore, carnivore.

### TEXTBOOKS

1. Martin R. Speight Marine Ecology: Concepts and Applications. 1<sup>st</sup> Edition, Library of Congress Cataloguing in Publications. ISBN - 978-1-4051-2699.
2. Jeffery clarke : Ecology : Concepts, Methods and Applications.

### REFERENCE BOOKS:

1. Agarwal, A. C., 1999, Environmental biology, Agro Botanica, Bikaner.
2. Anjaneyala, Y. B., 2004, Introduction to environmental science, S. P. B. S. Publications, Hyderabad.
3. Odum, E. P., 1983, Basic ecology, CBS College, Publishing, Saunders.
4. Saxsena, K. K., 2004, Environmental Sciences, University Book Hour (P) Ltd., Jaipur.
5. Trivedi, P. C., Sharma, K. C., 2003, Biodiversity conservation, Aavishkar Publishers, Jaipur.
6. Sven Erik Jørgensen, 2007, A New Ecology, 1st Edition, Elsevier Science



IV SEMESTER		
P-VIII	GREEN CHEMISTRY PRACTICAL	18PCCH4P2
Hrs / Week: 4	Hrs / Sem.: 60	Credit: 2

### I. Preparation of compounds using green chemistry

1. Preparation of benzopinacolone
2. Preparation of 1, 1-bis-2-naphthol
3. Synthesis of adipic acid
4. Synthesis of biodiesel
5. Preparation of Manganese(III) acetylacetonate,  $\text{Mn}(\text{acac})_3$  or  $\text{Mn}(\text{C}_5\text{H}_7\text{O}_2)_3$
6. Preparation of Iron(III) acetylacetonate,  $\text{Fe}(\text{acac})_3$  or  $\text{Fe}(\text{C}_5\text{H}_7\text{O}_2)_3$

II. Spot test using green chemistry-Basic radicals ( $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Cd}^{2+}$ ,  $\text{Bi}^{3+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ), Acid radicals ( $\text{F}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{NO}_2^-$ ,  $\text{NO}_3^-$ ,  $\text{S}^{2-}$ ,  $\text{SO}_3^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{SCN}^-$ ).

### III. Identification of N,S, Cl, Br and I using Green Chemistry.

#### REFERENCES:

1. Lab Experiments in Organic Chemistry, Arunsethi, New Age International Publishers, 2010.
2. The Systematic Identification of Organic Compounds R.L. Shriner, C.K.F. Hermann, T.C. Morrill, D.Y. Curtin & R.C. Fuson John Wiley & Sons, Inc., 1997.
3. Identification of organic compounds. By N. D. Cheronis and J. B. Entrikin. Interscience Publishers, New York, 1963.
4. Organic Cum Practical Hand Book Of Organic Chemistry, B J Hassard
5. Organic Experiments, Louis F. Fisser, Kenneth Williamson, D.C. Heath and Company, 1992.
6. A Hand Book Of Organic Analysis: Qualitative and Quantitative, Hans Thacher Clarke, 1916.
7. Experimental Organic Chemistry, H Dubont Durst And George W Gokal, 2<sup>nd</sup> Edn., New York: McGraw-Hill, 1987.
8. Practical Organic Chemistry, F G Mann and B C Saunders, 4<sup>th</sup> Edn., Pearson Education Ltd., 2009.
9. Textbook Of Practical Organic Chemistry, A I Vogel, Prentice Hall; 5<sup>th</sup> Edn., 1989.
10. Systematic Organic Chemistry, Modern Methods of Preparation and Estimation. By W.M. Cumming, I. Vance Hopper, and T. Sherlock Wheeler, London, 1923.
11. Monograph on Green Chemistry Laboratory Experiments, Green Chemistry Task Force Committee, DST.



IV SEMESTER			
<b>DSE: IIA</b>	<b>PRINCIPLES OF MARKETING</b>		<b>18UECF4A</b>
<b>Hrs. /Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs./Unit: 12</b>	<b>Credits: 4</b>

### Objectives

- To learn the principles of marketing
- To gain the practical skills in marketing

### UNIT I

Definition - market and Marketing -Evolution of Marketing- importance-Features of Modern Marketing -Is marketing a Science or an Art?

### UNIT II

Functions of Marketing - Functions of Exchange - Functions of Physical supply and facilitating functions - Concept of Marketing mix

### UNIT III

Product - Meaning and Definition - Product Planning and Development -features-Classification-Product Life Cycle-Branding-Packaging.

### UNIT IV

Pricing-Meaning-Objectives-factors affecting pricing-Physical Distribution-Channels-Types-Functions-Selection of Channel

### UNIT V

Promotion-Advertising-Merits-Demerits-Sales Promotion Techniques- Personal selling - Merits and Demerits - Recent marketing techniques.

### TEXTBOOK:

R.S.N. Pillai & Bagawathi - Marketing - S. Chand & Co., Delhi

### REFERENCE BOOKS:

1. Marketing by Rajan Nair
2. Philip Kotler - Marketing management Practice - Hall of India Private Limited - New Delhi
3. William J. Stanton Etal - Fundamentals of marketing McGraw - Hill International Editions
4. Marketing - Zikmund, Thomson Learning
5. Marketing - Limb Hair Mac Daniel - Thomson Asia



III SEMESTER			
IDC 2	HUMAN RESOURCE MANAGEMENT		18PICO31
Hrs/Week: 3	Hrs / Sem: 45	Hrs. / Unit: 9	Credits: 3

### Objectives

- To acquire the knowledge about HRM
- To gain knowledge on the practices followed in HRM

### UNIT I: Nature and Scope of Human Resource Management

Meaning – Definition – Nature – Objectives – Functions – Scope of HRM – Organisation of HR department – Role of HR Manager – Environment of HRM – Internal forces – External forces.

### UNIT II: Human Resource Planning

Meaning – Importance of HRP – Factors affecting HRP – The planning process – Requisites for successful HRP;

### UNIT III: Job Analysis and Job Evaluation

Job Analysis – meaning and definition – Process; Recruitment – meaning – Purpose and importance; Recruitment process; Selection – meaning and definition – Role of selection – Selection process. Job evaluation – scope - Process – Methods.

### UNIT IV: Training, Performance Appraisal and Remuneration

Nature of training and development – Importance – Training process; Performance appraisal – meaning and definition – Objectives – Appraisal process; Employee remuneration – Components – Importance; Incentive payments.

### UNIT V: Industrial Relations (IR)

Nature of IR – Importance of peaceful IR – Approaches to IR – IR Strategy; Trade unions – Nature of trade unions; Disputes and their resolution – Nature of disputes – Causes of disputes.

### TEXTBOOK:

1. K. Aswathappa – Human Resource and Personnel Management.

### REFERENCE BOOKS:

1. Human Resource Management – Garry Dessler – Prentice Hall
2. Human Resource Management – Biswajeet Pattanayak – Prentice Hall
3. Personnel Management – C.B. Mamoria, S.V. Gankear – Himalaya Publishing House.



II SEMESTER			
DSC 7	SERVICES MARKETING		18PCCO23
Hrs/Week: 6	Hrs / Sem: 90	Hrs. / Unit: 18	Credits: 4

### Objectives

- To familiarize the students about services sector with changing trend
- To enable the students to acquire in depth knowledge about service marketing techniques
- To make the students understand the application of service marketing in various service organisations.

### UNIT I

Services - Characteristics and Categories - Major difference between services and goods - different types of services - trends in service marketing - consumer behaviour - customer satisfaction - post purchase evaluation by customers.

### UNIT II

Marketing mix elements for services- Service product - development of new product - pricing in Marketing - Service promotion - place in services - people in service marketing - physical evidence of a service - Service process

### UNIT III

Demand and supply management - measures to respond to the changes in demand - Balancing demand and supply - queues and the associated problems - service quality - measurement of service quality - Dimensions of Service Quality.

### UNIT IV

Marketing strategy in services - External marketing, Internal marketing, interactive marketing - customer encounter management - customer relationship marketing.

### UNIT V

Service application - Marketing of insurance business - Banking- Education - Tourism industry - Hospitality Health Services - Transport Services.

### TEXTBOOK:

Service Marketing - M.K. Rampal, S.L. Gupta, Galgotia Publishing Co.

### REFERENCE BOOKS:

1. Service Marketing - Govind Apte- Oxford University Press, New Delhi
2. Service Marketing - S.M. Jha, Himalaya
3. Service Marketing - B. Balaji, S.Chand& Co., Chennai



<b>II SEMESTER</b>			
<b>DSC 4</b>	<b>PRINCIPLES OF MANAGEMENT *</b>		<b>18UCCO22</b>
<b>Hrs/Week: 5</b>	<b>Hrs / Sem: 75</b>	<b>Hrs. / Unit: 15</b>	<b>Credits: 4</b>

\* Offered as Allied II Course in B.Com. (Finance)

### **Objectives**

- To gain the knowledge various principles in the management
- To know the various aspects of management functions

### **UNIT I: Management**

Meaning - Definition - Nature - Importance and features of Management - Important Principles of Management- Management: Science or Art - Management as Profession - Functions of Management - Management and Administration

### **UNIT II: Planning and Decision Making**

Planning - Meaning - Definition - Features - Importance - Steps - Types of planning - Merits and Demerits - Decision making - process

### **UNIT III: Organising**

Organising-Meaning-Definition-Nature and Characteristics of Organising-Principles of organising-Different form of organisation- Organization charts and manuals - Committee form of organisation

### **UNIT IV: Staffing and Directing**

Staffing - General Principles – Importance – Techniques – Directing - Meaning - Definition - Nature and scope of direction -Delegation – Centralization - Decentralization.

### **UNIT V: Co-ordination and Control**

Coordination - meaning - definition - scope - importance - requirements of effective coordination; Control - meaning - definitions - nature - types of controlling - elements of control.

### **TEXT BOOKS:**

1. Business Administration and Management - S.C. Saksena, Sahitya Bhawan
2. Principles of Management - Kumkum Mukherjee, Tata McGraw Hill Education Private Limited, New Delhi

### **REFERENCE BOOKS:**

1. Principles of Management -T.Ramasamy
2. Principles of Management - Dr. K. Natarajan & K.P. Ganesan
3. Business Management by DinakarPagare
4. Business Management -AmithaBha Roy Mc Graw - Hill Edition.
5. Principles and Practice of Management - R.S. Gupta, B.D. Sharma, N.S. Bhalla - Kalyani Publishers
6. Principles and Practice of Management - L.M. Prasad
7. Principles of Management - P.C. Tripathy & P.N. Reddy



<b>IV SEMESTER</b>			
<b>DSC 8</b>	<b>BUSINESS COMMUNICATION*</b>	<b>18UCCO41/ 18UCCF41</b>	
<b>Hrs/Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Hrs. / Unit: 18</b>	<b>Credits: 4</b>
<b>Common to B.Com. and B.Com. (Finance)</b>			

**Objectives**

- To enable the students to know communication and its importance
- To help the students to write various business letters to suit various business situation

**UNIT I**

Introduction - Importance - Definition - Process of communication - Media for communication - Types of communication - Barriers to communication

**UNIT II**

Business Letter - Need - Characteristics of a good letter - Functions - Kinds - Essentials of a good business letter - Layout.

**UNIT III**

Letters of Offer and Quotation - Enquiry and Reply - Orders and their Execution - Credit and Status Enquiry

**UNIT IV**

Complaints and adjustments - Collection letters - Circular letters - Sales letters - Application for situation - Resume Writing - Report writing

**UNIT V**

Banking correspondence - Insurance correspondence - Agency correspondence - Communication Network - E-mail correspondence

**TEXT BOOKS:**

Essentials of Business Communication - Rajendra Pal & S.Korlahalli - Sultan Chand & Sons - New Delhi.

**REFERENCE BOOKS:**

1. Effective Business Communication - Asha Kaul - Prentice Hall
2. Business Communication - Asha Kaul - Prentice Hall
3. Business Communication-RSN Pillai and Bagavathi



<b>V SEMESTER</b>			
<b>DSE 4B</b>	<b>PERSONAL SELLING AND SALESMANSHIP *</b>		<b>18UECO6B/ 18UECF6B</b>
<b>Hrs/Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs. / Unit: 12</b>	<b>Credits: 4</b>

\* Common to B.Com. and B.Com. (Finance)

**Objectives:**

- To familiarise the students with the fundamentals of personal selling and the selling process.
- To make the students to understand efforts to be taken while assuming selling as a career.

**UNIT I**

Introduction to Personal Selling: Meaning – Definition – Objectives – Nature - features – advantages – disadvantages- importance of personal selling - myths of selling, Difference between Personal Selling, Salesmanship and Sales Management.

**UNIT II**

Fundamentals of successful selling – sales personality – important personality traits – physical traits – mental traits – social traits – character traits – effective sales Talk – buying process – mental stages – effective presentation and demonstration - Theories of personal selling – AIDAS Theory – right set of circumstances theory – Buying formula theory – Behavior education theory.

**UNIT III**

Salesmanship meaning - Types of salesman – Characteristics of a good salesman - Duties of sales manager – control of salesmen – methods of controlling salesmen – Salesmen report and its uses – types of report forms - types of selling situations - Career opportunities in selling, Measures for making selling an attractive career.

**UNIT IV**

Buying Motives: Concept of motivation, Maslow's theory of need hierarchy; Dynamic nature of motivation; Buying motives and their uses in personal selling. Selling Process: Prospecting and qualifying; Pre-approach; Approach; Presentation and demonstration; handling of objections; Closing the sale; Post sales activities.

**UNIT V**

Sales Reports: reports and documents; sales manual, Order Book, Cash Memo; Tour Diary, Daily and Periodical Reports; Ethical aspects of Selling.

**TEXT BOOK:**

Salesmanship and publicity – J.S.K Patel – Sultan Chand & Sons, New Delhi

**REFERENCE BOOKS:**

1. Dr. Rusdom S. Davar, Hohrab, R. Davar and Nusli R. Davar – Salesmanship and Publicity – Vikas Publishing Pvt., Ltd, New Delhi
2. Salesmanship – C.A Kirkpatric – South Wester Publishing – Indian Reprint by J. Taraporewal, Bombay
3. Kapoor Neeru, Advertising and personal Selling, Pinnacle, New Delhi.



II SEMESTER			
DSE- 2B	INTRODUCTION TO HUMAN RIGHTS		18PEHS2B
Hrs/Week:4	Hrs/ Sem: 60	Hrs/Unit:12	Credits:4

**Objectives:**

- This course introduces conceptual, legal, and historical evolution of the idea of Human Rights.
- The course provide to the students a deep insights into the theoretical basics, practical functioning, and historically evolutionary nature of the concept of Human Rights.

**Unit I**

**Human Rights** – Meaning, Nature, Importance and Scope of Human Rights – Need for the study – Evolution of Human Rights: A Global Perspective.

**Unit II**

**Bases and Sources of Human Rights:** Natural Law – Ideas and Ethos – Approaches: Classical– Marxist – Modern concepts.

**Unit III**

**Human Rights Norms and Standards:** Basics, Meaning, Importance and Concepts – Right to Self Determination – Right against discrimination.

**Unit IV**

**Classification of Human Rights:** Historical, Chronological and Philosophical.

**Unit V**

**Development of Human Rights:** Glorious Revolution – Bill of Rights – The US and Human Rights Treaties – French Revolution – The UN and its Charter.

**Reference Books:**

1. Ian Brownli, Basic Documents on Human Rights, Oxford University Press, New York, 1981.
2. Jack Donnelly, The Concept of Human Rights, Croom Helm, London 1985.
3. Rajinder Sachar, Human Rights Perspectives and Challenges, Gyan Publishing Home, New Delhi, 2004.
4. JanuszSymondies (ed.), New Dimensions and Challenges for Human Rights, Rawat Publications, Jaipur, 2003. 109
5. Satya P.Kanan, Human Rights Evolution and Development, Wisdom Press, New Delhi, 2012.



I SEMESTER			
DSC-2	HISTORY OF TIRUNELVELI		18UCHS12
Hrs/Week:5	Hrs/ Sem: 75	Hrs/ Unit: 15	Credits: 4

**OBJECTIVES**

- To study about the Sources of constructing local History of Tirunelveli.
- To understand the Political and Social History of Tirunelveli.
- To know about the Advent of Europeans and their programs in Tirunelveli.
- To trace about the rise and growth of Freedom Movements in Tirunelveli.

**UNIT – I Conceptualising local History**

Sources – Constructing local History – Physical features of Tirunelveli- Significance Relating local to the region/ Nation.

**UNIT – II Political History of Tirunelveli**

Pandyas – Cholas- Cheras – TenkasiPandyas –Vijayangar – Nayak- Nawab Powers- castes &castes – communities –caste conflicts.

**UNIT –III Social History of Tirunelveli**

Migrants: Mudaliar – Vellala – Balija- Reddi- Kamma- Their migrations into Tirunelveli and its impact- Islam in Tirunelveli: Arab traders in Tuticorin- Marakkayars – Arcot Nawabs and their Agents in Trade and Commerce.

**UNIT –IV Advent of the Europeans in Tirunelveli**

Conversion of Paravas – Political conflicts – Tirunelveli as Maritime Zone- Poligari system & its Disruption under British rule- Missionaries and spread of Christianity – Its impact on Tirunelveli Society.

**UNIT – VFreedom Movement in Tirunelveli**

Unknown freedom fighters – Fakhir Muhammed Sait, Subayya Pillai, Sarathi Arunachalam and Ondi Veeran -Non-Brahmins Movement- Swadeshi Movement - National Movement

**REFERENCE BOOKS**

1. R. Caldwell. *A History of Tinnevelly*
2. A.R. Venkatachalapathy, *Dravidalyakkamum Vellalarum*
3. H.R. Pate, *District Gazatteer, Tinnevelly*
4. Ramasamy, *Tamilnatil Gandhi*



III SEMESTER			
<b>DSE-3B</b>	<b>SOCIAL COMPUTING</b>		<b>18PECS3B</b>
<b>Hrs / Week: 4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs / Unit: 12</b>	<b>Credits: 4</b>

### **OBJECTIVES**

- To create original social application, critically applying appropriate theories and effective practices in a reflexive and creative manner.
- To critically analysis social software in term of its technical, social, legal , ethical and functional feature.

### **Unit I BASIC CONCEPTS**

Networks and Relations: Relations and Attributes, Analysis of Network Data, Interpretation of network data -New Social Learning – Four Changes that Shift Work - Development of Social Network Analysis: Sociometric analysis and graphtheory, Interpersonal Configurations and Cliques – Analysing Relational Data.

### **Unit II SOCIAL LINK**

Individual Actors, Social Exchange Theory, Social Forces, Graph Structure, Agent Optimization Strategies in Networks – Hierarchy of Social Link Motivation- Social Context.

### **Unit III SOCIAL MEDIA**

Trends in Computing – Motivations for Social Computing – Social Media: Social relationships, Mobility and Social context – Human Computation – Computational Models- Business use of social Media.

### **Unit IV SOCIAL INFORMATION FILTERING**

Mobile Location Sharing – Location based social media analysis – Social Sharing and Social Filtering – Automated recommender Systems – Traditional and Social Recommender Systems.

### **Unit V SOCIAL NETWORK STRATEGY**

Application of Topic Models – Opinions and Sentiments – Recommendation Systems – Language Dynamics and influence in online communities–Psychometric analysis – Case Study: Social Network Strategies for surviving the zombie apocalypse.

### **REFERENCE(S):**

1. Tony Bingham, Marcia Conner, "The New Social Learning, Connect. Collaborate. Work", 2nd Edition, ATD Press, ISBN-10:1-56286-996-5, 2015.
2. Nick Crossley, Elisa Bellotti, Gemma Edwards, Martin G Everett, Johan Koskinen, Mark Tranmer, "Social Network Analysis for Ego-Nets", SAGE Publication, 2015.
3. Zafarani, Abbasi and Liu, Social Media Mining: An Introduction, Cambridge University Press, 2014.
4. John Scott, "Social Network Analysis", Third Edition, SAGE Publication, 2013
5. Jennifer Golbeck, "Analyzing the Social Web", Elsevier Publication, 2013.
6. Huan Liu, John Salerno, Michael J. Young, "Social computing and Behavioral Modeling", Springer Publication, 2009.
7. Christina Prell, "Social Network Analysis: History, Theory and Methodology", 1st Edition, SAGE Publications Ltd, 2012



II SEMESTER			
<b>DSE-2B</b>	<b>CYBER SECURITY</b>		<b>18PECS2B</b>
<b>Hrs / Week:4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs / Unit: 12</b>	<b>Credits: 4</b>

### **OBJECTIVES**

- To understand the difference between threat, risk, attack and vulnerability.
- To identify how threats materialize into attacks and the motivation behind them.

### **UNIT I INTRODUCTION TO CYBER SECURITY**

Introduction -Computer Security - Threats -Harm - Vulnerabilities - Controls - Authentication - Access Control and Cryptography - Web—User Side - Browser Attacks - Web Attacks Targeting Users - Obtaining User or Website Data - Email Attacks

### **UNIT II SECURITY IN OPERATING SYSTEM & NETWORKS**

Security in Operating Systems - Security in the Design of Operating Systems -Rootkit - Network security attack- Threats to Network Communications - Wireless Network Security - Denial of Service - Distributed Denial-of-Service.

### **UNIT III DEFENCES: SECURITY COUNTER MEASURES**

Cryptography in Network Security - Firewalls - Intrusion Detection and Prevention Systems - Network Management - Databases - Security Requirements of Databases - Reliability and Integrity - Database Disclosure - Data Mining and Big Data.

### **UNIT IV PRIVACY IN CYBERSPACE**

Privacy Concepts -Privacy Principles and Policies -Authentication and Privacy - Data Mining -Privacy on the Web - Email Security - Privacy Impacts of Emerging Technologies - Where the Field Is Headed.

### **UNIT V MANAGEMENT AND INCIDENTS**

Security Planning - Business Continuity Planning - Handling Incidents - Risk Analysis - Dealing with Disaster - Emerging Technologies - The Internet of Things - Economics - Electronic Voting - Cyber Warfare - Cyberspace and the Law - International Laws - Cyber crime - Cyber Warfare and Home Land Security.

### **TEXT BOOK(S):**

1. Charles P. Pfleeger Shari Lawrence Pfleeger Jonathan Margulies, Security in Computing, 5th Edition , Pearson Education , 2015
2. George K.Kostopoulous, Cyber Space and Cyber Security, CRC Press, 2013.

### **REFERENCE(S):**

1. Martti Lehto, Pekka Neittaanmäki, Cyber Security: Analytics,Technology and Automation edited, Springer International Publishing Switzerland 2015
2. Nelson Phillips and Enfinger Steuart, Computer Forensics and Investigations, Cengage Learning, New Delhi, 2009.



IV SEMESTER			
<b>DSE-4A</b>	<b>ARTIFICIAL INTELLIGENCE</b>		<b>18PECS4A</b>
<b>Hrs / Week:4</b>	<b>Hrs / Sem:60</b>	<b>Hrs / Unit: 12</b>	<b>Credits: 4</b>

### **OBJECTIVES**

- To study the concept of Artificial Intelligence.
- To learn the methods of solving problems using Artificial Intelligence and Introduce the concepts of expert system and Machine Learning.

### **UNIT I ARTIFICIAL INTELLIGENCE**

What is Artificial Intelligence? The AI Problems – The Underlying Assumptions – What is an AI Technique? Problem spaces and search – Defining the Problems as a State Space Search – Production Systems – Problem Characteristics – Production System Characteristics – Issues in the Design of Search Programmes.

### **UNIT II KNOWLEDGE REPRESENTATION**

Generate and Test – Hill Climbing – Best-First Search – Problem Reduction – Constraint Satisfaction – Means End Analysis-Knowledge Representation issues: Representation and Mappings – Approaches to Knowledge Representation – Issues in Knowledge Representation – The Frame Problem

### **UNIT III PREDICATE LOGIC**

Using predicate logic – Representing Simple facts in Logic – Representing Instance and Is a relationships – Computable functions and Predicates – Resolutions – Natural Deductions – Representing Knowledge Using Rules: Procedural versus Declarative Knowledge – Forward versus Backward Reasoning – Matching – Control Knowledge

### **UNIT IV REASONING**

Symbolic Reasoning under uncertainty – Introduction to Non Monotonic Reasoning – Logics for Non Monotonic Reasoning – Implementation issues – Implementation : Breadth – First Search – Statistical reasoning – Bayesian Networks – Fuzzy Logic- Learning: What is learning? – Rote Learning – Learning by taking advice

### **UNIT V EXPERT SYSTEM**

Connectionist Models – Introduction – Hopfield Networks – Learning in Neural Networks – Applications of Neural Networks – Expert Systems – Representing and Using Domain Knowledge – Expert System Shells – Explanation – Knowledge acquisition

### **TEXT BOOK(S):**

11. Artificial Intelligence, Elaine Rich, Kevin Knight, Shivas Shankar B Nair, TataMcGraw Hill Publishing Ltd., - New Delhi, Third Edition, 2009.

### **REFERENCE(S):**

1. Introduction to Artificial Intelligence and Expert Systems, Dan W.Patterson, Prentice Hall of India, New Delhi, 1992
2. Artificial Intelligence, A Modern Approach, Stuart J. Russell and Peter Norvig, Pearson Education, reprint 2003.
3. Introduction to Expert Systems, 3/e, Peter Jackson, Pearson Education, Reprint 2003
4. Artificial Intelligence, A New Synthesis, Nils J. Nilsson Harcourt Asia Pvt. Ltd., 1998



IV SEMESTER			
<b>DSE-4B</b>	<b>HUMAN COMPUTER INTERFACE</b>		<b>18PECS4B</b>
<b>Hrs / Week:4</b>	<b>Hrs / Sem: 60</b>	<b>Hrs / Unit: 12</b>	<b>Credits: 4</b>

### **OBJECTIVES**

- To learn the Foundations Of Human Computer Interface.
- To understand the awareness of Mobile HCI and guidelines for User Interface.

### **Unit I FOUNDATIONS**

Human: Human memory – Emotion – Individual differences – Psychology and the design of interactive systems – Computer: Devices used for Text entry, display, virtual reality and 3D interactions – Positioning & pointing – physical controls, sensors and special devices – memory – processing and networks. Interactions: Models of interactions - Framework – interaction styles – context of interactions -elements of WIMP interface.

### **Unit II INTERACTION DESIGN BASICS**

Paradigms of interactions – process of design – HCI in software process – software life cycle – usability engineering – interactive design and prototyping – design rules: principles to support usability – standards – guidelines and rules for heuristics – HCI patterns – implantation support – evaluation technique – usersupport.

### **Unit III IMPLEMENTATION AND EVALUATION**

Elements of windowing systems – Toolkits – User interface systems – Goals of evaluation – evaluation through expert system, user participation – choosing evaluation method – universal design principles – multi-modal interaction – design focus – user support.

### **Unit IV MODELS AND THEORIES-1**

Cognitive models : Goals and task hierarchies – linguistic models – challenge of display based systems- physical and device models – cognitive architecture –socio organizational issues and stakeholder requirements: organizational issues –capturing requirements.

### **Unit V MODELS AND THEORIES-2**

Communication and collaboration models: face to face communication –conversion – text based communication – group working – task analysis: task decomposition – knowledge based analysis – dialog notations and design – models of systems – models of rich interactions.

### **REFERENCE(S):**

1. Julie A. Jacko, "Human Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications", 3rd edition, CRC Press, ISBN 9781439829431, 2012.
2. Yvonne Rogers, Helen Sharp, Jenny Preece, "Interaction Design: Beyond Human computer Interaction", 3rd edition, Wiley, ISBN-10: 0470665769,2011.
3. Dix A, Human – Computer Interaction. Harlow, England: Prentice Hall, ISBN- 10:0130461091, 2004.



III SEMESTER			
<b>DSC 9</b>	<b>DIGITAL IMAGE PROCESSING</b>		<b>18PCCS33</b>
<b>Hrs / Week:5</b>	<b>Hrs / Sem:75</b>	<b>Hrs / Unit: 15</b>	<b>Credits: 4</b>

### **OBJECTIVES**

- To learn and understand the fundamentals of digital image processing, and various image Transforms.
- To learn Image Enhancement Techniques, Image restoration Techniques, image compression and Segmentation used in digital image processing.

### **UNIT I INTRODUCTION TO IMAGE PROCESSING**

Digital Image Processing – Mat Lab Working Environment – Image Representation – reading images – Displaying images – Writing images – Data classes – Image types – Converting between data classes and image types – Array indexing – M-Function Programming

### **UNIT II SPATIAL DOMAIN AND FREQUENCY DOMAIN PROCESSING**

Intensity Transformation functions – Histogram processing and function plotting – spatial filtering – 2-D Discrete Fourier transformation – filtering in the frequency domain – generating and sharpening frequency domain filters

### **UNIT III IMAGE RESTORATION AND COLOR IMAGE PROCESSING**

Model of the image degradation / restoration process – Noise models – Periodic Noise Reduction using frequency domain filtering – direct inverse filtering – wiener filtering – constrained least square filtering – Lucy – Richardson algorithm – color image representation

### **UNIT IV IMAGE COMPRESSION AND MORPHOLOGICAL IMAGE PROCESSING**

Coding redundancy - Spatial redundancy – psycho visual redundancy – JPEG compression - Morphological image processing – dilation and erosion – morphological reconstruction

### **UNIT V IMAGE SEGMENTATION AND REPRESENTATION**

Point , Line, Edge Detection – Hough Transform – Thresholding – Region based Segmentation – Watershed Transform – Representation – Boundary Descriptors – Regional Descriptors.

### **TEXT BOOK(S):**

1. Rafael C.Gonzalez, Richard E. Woods, Steven L. Eddins, Digital Image Processing using MATLAB, Pearson Education Inc, New Delhi, 2007.

### **REFERENCE(S):**

1. Chanda. B. Dutta Majumder, D. Digigal Image Processing and Analysis, Prentice Hall of India, New Delhi, 2007.
2. Gonzalez, R.C., Wintz P Digital Image Processing, Addison-wesley Longman Publishing Co, New Delhi – 1987
3. Scott E. Umbaug, Computer Vision and Image Processing, Prentice Hall International, New Delhi, 1998.



<b>I SEMESTER</b>			
<b>DSC 3</b>	<b>MATHEMATICAL STATISTICS</b>		<b>18PCMA13</b>
<b>Hrs / Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Hrs / Unit: 18</b>	<b>Credit: 4</b>

**OBJECTIVES:**

- To understand the concept of Probability and Probability Distributions.
- To learn the basic concepts of Mathematical Statistics.
- To know about the theory of sampling.

**UNIT I**

Conditional Probability and Stochastic Independence: Conditional Probability – Marginal and Conditional distributions – The correlation coefficient – Stochastic Independence

**UNIT II**

Some Special Distributions: The Binomial, Trinomial and Multinomial distributions – The Poisson distribution – The Gamma distribution & chi-square distribution – The normal distribution – The Bivariate normal distribution.

**UNIT III**

Distributions of functions of Random variables: Sampling Theory – Transformation of variables of the discrete type – Transformation of variables of the continuous type – The t and F Distributions.

**UNIT IV**

Extensions of the Change of variable Technique – Distribution of order statistics – The moment generating function technique – Distributions of  $\bar{X}$  and  $nS^2/\sigma^2$  – Expectations of functions of random variables.

**UNIT V**

Limiting Distributions: Limiting Distributions – Stochastic convergence – Limiting moment generating functions – The central limit theorem – Some theorems on Limiting Distributions.

**TEXT BOOK:**

**Robert V.Hogg and Allen T.Craig**-Introduction to Mathematical Statistics- Pearson Education Asia, Chapters 2, 3, 4 and 5

**Unit I** : Chapter 2(section 2.1 to 2.4)

**Unit II** : Chapter 3(section 3.1 to 3.5)

**Unit III** : Chapter 4(section 4.1 to 4.4)

**Unit IV** : Chapter 4(section 4.5 to 4.9)

**Unit V** : Chapter 5(section 5.1 to 5.5)



<b>I SEMESTER</b>			
<b>DSC4</b>	<b>ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS</b>		<b>18PCMA14</b>
<b>Hrs / Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Hrs / Unit: 18</b>	<b>Credit: 4</b>

**OBJECTIVES:**

- To discuss several methods for finding power series solutions to differential equations of first order and second order.
- To understand the difference between ordinary and regular singular points.
- To learn more about the concepts of first order partial differential equations.

**UNIT I**

Introduction: A review of power series - Series solutions of first order equations - Second Order Linear equations and Ordinary points

**UNIT II**

Regular singular points - Regular singular point (continued) - Gauss Hyper Geometric equation - Point at infinity.

**UNIT III**

Legendre Polynomials- Properties of Legendre Polynomials - Bessel functions. The Gamma Function- Properties of Bessel Functions

**UNIT IV**

Partial Differential Equations - Origin of First order Partial Differential Equations Cauchy's problem for first order equations- Linear equations of the first order - Integral surfaces passing through a given curve - Surfaces orthogonal to a given system of surfaces.

**UNIT V**

Cauchy's method of characteristics - Compatible systems of first order equations - Charpit's method - Special type of first order equations- Solution satisfying the given conditions - Jacobi's Method

**TEXT BOOK:**

1. **G.F. Simmons**- Differential equation with application and historical notes - TataMcGraw Hill Publishing Company Ltd, New Delhi.

**UNIT I** : Section 25 to 27

**UNIT II** : Section 28 to 31

**UNIT III** : Section 32 to 35

2. Ian N. Sneddon - Elements of Partial Differential Equations - Dover Publications, Inc-Mineola, New York.

**UNIT IV** : Chapter 2 (Section 1 to 6)

**UNIT V** : Chapter 2 (Section 8 to 13)



<b>II SEMESTER</b>			
<b>DSC 5</b>	<b>LINEAR ALGEBRA</b>		<b>18PCMA21</b>
<b>Hrs / Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Hrs / Unit:18</b>	<b>Credit:4</b>

**OBJECTIVES:**

- To study the basic concepts of linear dependence, basis, homomorphisms of vector spaces and Inner product spaces.
- To understand an extremely rich structure called algebra of linear transformations and the canonical forms.
- To learn about Trace, Transpose and determinants.

**UNIT I**

Elementary Basic Concepts of Vector Spaces - Linear Independence and Bases - Dual Spaces.

**UNIT II**

Inner Product Spaces - Modules.

**UNIT III**

The Algebra of Linear Transformations - Characteristic roots - Matrices.

**UNIT IV**

Canonical Forms: Triangular form - Nilpotent Transformations.

**UNIT V**

Determinants - Hermitian, Unitary and Normal Transformations.

**TEXT BOOK:**

**I.N. Herstein** - Topics in Algebra (Second Edition) - Wiley India (P.)Ltd, New Delhi

**UNIT I** : Chapter 4 (Section 4.1 to 4.3)

**UNIT II** : Chapter 4 (Section 4.4 to 4.5)

**UNIT III** : Chapter 6 (Section 6.1 to 6.3)

**UNIT IV** : Chapter 6 (Section 6.4, 6.5)

**UNIT V** : Chapter 6 (Section 6.9 , 6.10)



III SEMESTER			
<b>DSC 8</b>	<b>GRAPH THEORY</b>		<b>18PCMA31</b>
<b>Hrs / Week: 6</b>	<b>Hrs / Sem: 90</b>	<b>Hrs / Unit: 18</b>	<b>Credit: 4</b>

**OBJECTIVES:**

- To provide an in-depth knowledge of graph theoretical concepts.
- To motivate the students to do research in discrete and applied mathematics.
- To learn about coloring and Ramsey numbers.

**UNIT I**

Trees: Bridges - Trees. Connectivity: Cut vertices - Blocks - Connectivity.

**UNIT II**

Traversability: Eulerian graphs–Hamiltonian graphs. Digraphs: Strong Digraphs.

**UNIT III**

Matchings and Factorizations: Matchings - Factorization - Decompositions and Graceful Labelings.

**UNIT IV**

Planarity: Planar graphs –Embedding Graphs on surfaces. Coloring: Vertex coloring.

**UNIT V**

Edge coloring –The Heawood Map coloring theorem. Ramsey Numbers: The Ramsey number of graphs. Distance: The centre of a graph.

**TEXT BOOK:**

Gary Chartrand and Ping Zhang - Introduction to Graph Theory, Edition 2006. Tata McGraw-Hill Publishing Company Limited, New Delhi.

**UNIT I** : Chapter 4(4.1, 4.2), Chapter 5(5.1, 5.2, 5.3).

**UNIT II** : Chapter 6(6.1, 6.2), Chapter 7(7.1).

**UNIT III** : Chapter 8(8.1, 8.2, 8.3)

**UNIT IV** : Chapter 9(9.1, 9.2), Chapter 10 (10.2).

**UNIT V** : Chapter 10 (10.3, 10.4), Chapter 11(11.1), Chapter 12 (12.1).



IV SEMESTER			
DSC 12	TOPOLOGY		18PCMA41
Hrs / Week: 6	Hrs / Sem: 90	Hrs / Unit: 18	Credit:4

**OBJECTIVES:**

- To introduce basic concepts of Topology.
- To introduce product Topology and quotient Topology.
- To study the countability axioms and Urysohn metrization theorem.

**UNIT I**

Topological spaces – Basis for a Topology – Order Topology – The product Topology on  $X \times Y$  – The Subspace Topology – Closed sets and Limit points.

**UNIT II**

Continuous functions – The Product Topology – The Quotient Topology.

**UNIT III**

Connected spaces, components and local connectedness – compact spaces.

**UNIT IV**

Local compactness – The Countability axioms – The Separation axioms.

**UNIT V**

Normal Spaces – Urysohn lemma – Urysohn metrization theorem. (first version of proof only).

**TEXT BOOK:**

J.R. Munkres–Topology-2<sup>nd</sup> Edition, Eastern Economy Edition – Prentice- Hall of India Pvt. Ltd, New Delhi.

**UNIT I** : Chapter 2 (12 to 17).

**UNIT II** : Chapter 2(18, 19, 22).

**UNIT III** : Chapter 3 (23, 25, 26).

**UNIT IV** : Chapter 3 (29), Chapter 4 (30, 31).

**UNIT V** : Chapter 4 (32, 33, 34)



IV SEMESTER			
<b>DSC 13</b>	<b>FUNCTIONAL ANALYSIS</b>		<b>18PCMA42</b>
<b>Hrs / Week: 6</b>	<b>Hrs /Sem: 90</b>	<b>Hrs / Unit: 18</b>	<b>Credit: 4</b>

**OBJECTIVES:**

- To introduce the study of Banach spaces and its applications.
- To introduce the concept of Hilbert spaces, conjugate spaces, adjoint, self adjoint, normal and unitary operators.
- To introduce finite dimensional spectral theory.

**UNIT I**

**Banach Spaces:** The definition and some examples - Continuous linear transformations -The Hahn-Banach theorem.

**UNIT II**

The natural imbedding of  $N$  in  $N^{**}$  - The open mapping theorem - The conjugate of an operator.

**UNIT III**

**Hilbert spaces:** The definition and some simple properties - Orthogonal complements -Orthonormal sets - The conjugate space  $H^*$ .

**UNIT IV**

The adjoint of an operator – Self-adjoint operator - Normal and Unitary operators -Projections.

**UNIT V**

**Finite-Dimensional Spectral Theory:** Matrices - Determinants and the spectrum of an operator – The spectral theorem.

**TEXT BOOK:**

George F.Simmons – Introduction to Topology and Modern Analysis, Tata McGraw-Hill Publishing Company Ltd, New Delhi.

**UNIT I** : Chapter 9(46 to 48)

**UNIT II** : Chapter 9(49 to 51)

**UNIT III** : Chapter 10(52 to 55)

**UNIT IV** : Chapter 10(56 to 59)

**UNIT V** : Chapter 11(60 to 62)



III SEMESTER			
DSE 3A	DIFFERENTIAL GEOMETRY		18PEMA3A
Hrs / Week:4	Hrs / Sem:60	Hrs / Unit: 12	Credit: 4

**OBJECTIVES:**

- To introduce the basic concepts in three dimensional Euclidean space.
- To introduce the essential ideas and method of differential geometry.
- To learn about the Geodesics, Canonical geodesics, geodesic curvature.

**UNIT I**

The theory of space curves – Definitions, Arc length – Tangent – Normal and Binormal - Curvature and Torsion.

**UNIT II**

Contact between curves and surfaces – Tangent Surface – Involutives and evolutes.

**UNIT III**

Definition of a surface – Curves on a surface – Helicoids.

**UNIT IV**

Metric – Direction Coefficients - Families of curves - Geodesics.

**UNIT V**

Canonical geodesic equation, Normal Property of geodesics (Christoffel symbols not included). Geodesic curvature,

**TEXT BOOK:**

T.J.Willmore - An Introduction to Differential Geometry, Oxford University Press, (17<sup>th</sup> Impression), New Delhi, 2002, (Indian Print)

**Unit I : Chapter 1:** Section: 1.1 – 1.4. problem:chapter1:1-4

**Unit II : Chapter 1:** Section: 1.5- 1.7 and.problem:chapter1:8-12

**Unit III : Chapter 2:** Section: 2.1, 2.2, 2.4,.problem: chapter 2:1-4

**Unit IV : Chapter 2:** Section: 2.5-2.7.problem: chapter 2:6-8

**Unit V : Chapter 2:** Section: 2.10-2.12,2.15.problem: chapter 2:10-12



IV SEMESTER			
DSC-10	INTERNET OF THINGS		18UCIT43
Hrs/Week: 4	Hrs/Sem: 60	Hrs/Unit: 12	Credit: 4

**Objective:**

- Understand the concepts of IOT and employ IOT to different applications and also Analysis and evaluate protocols used in IOT and the data received through sensors in IOT.
- Employ the application of IOT in Industrial Automation and identify Real World Design constrains and to Recognize Projects based on some Hardware (Raspberry pi, Arduino) Software using IOT.

**UNIT I**

Internet of Things - Physical Design- Logical Design- IoT Enabling Technologies - IoT Levels & Deployment Templates - Domain Specific IoTs - IoT and M2M - IoT System Management with NETCONF-YANG- IoT Platforms Design Methodology

**UNIT II**

M2M high-level ETSI architecture - IETF architecture for IoT - OGC architecture - IoT reference model - Domain model - information model - functional model - communication model - IoT reference architecture.

**UNIT III**

Protocol Standardization for IoT – Efforts – M2M and WSN Protocols – SCADA and RFID Protocols – Unified Data Standards – Protocols – IEEE 802.15.4 – BACNet Protocol – Modbus– Zigbee Architecture – Network layer – 6LowPAN - CoAP - Security.

**UNIT IV**

Building IOT with RASPERRY PI- IoT Systems - Logical Design using Python – IoT Physical Devices & Endpoints - IoT Device -Building blocks -Raspberry Pi -Board - Linux on Raspberry Pi - Raspberry Pi Interfaces -Programming Raspberry Pi with Python - Other IoT Platforms - Arduino.

**UNIT V**

Real world design constraints - Applications - Asset management, Industrial automation, smart grid, Commercial building automation, Smart cities - participatory sensing - Data Analytics for IoT – Software & Management Tools for IoT Cloud Storage Models & Communication APIs - • Cloud for IoT - Amazon Web Services for IoT

**TEXTBOOK**

1. "Internet of Things: A Hands-On Approach" by Arshdeep Bahga, Vijay Madisetti, 2014, Arshdeep Bhaga& Vijay Madisetti Publisher
2. "From Machine-to-Machine Internet of Things Introduction to a New Age of Intelligence" by Jan Holler, VlasiosTsiatsis, Catherine Mulligan, Stamatis Karnouskos, Stefan Avesand, David Boyle,1st Edition,2014, Academic Press is an imprint of Elsevier.



V SEMESTER			
SEC-I	INTERNET SECURITY		18USIT51
Hrs/Week: 2	Hrs/Sem: 30	Hrs/Unit: 6	Credit: 2

**Objective:**

- Understanding Security attacks, services and mechanism
- To understand the fundamentals of Threats and how to prevent from various threats
- To acquire knowledge on Firewall and Gateway
- Explore various secure communication standards including IP sec, and SSL/TLS and email.
- Learn about IP Security

**UNIT I**

Computer Security Concepts – The OSI Security Architecture – Security Attacks - Security Services –A Model for Network Security – Mechanism – Symmetric Encryption Principles.

**UNIT II**

Public – Key Cryptography Principles – Kerberos - Web Security Consideration – SSL and Transport Layer Security

**UNIT III**

TLS– HTTPS – Wireless LAN Overview – Wireless Application Protocol Overview – WAP End to End Security

**UNIT IV**

S/MIME – Domain Keys Identified Mail - IP Security Overview – IP Security Policy – Internet Key Exchange – Cryptographic Suites

**UNIT V**

Intruders – Types of Malicious Software – Viruses – Worms – Distributed Denial Service Attacks – Firewall Characteristics – Types of Firewalls – Firewall Location and Configuration.

**TEXTBOOK**

“Network Security Essentials Application and Standards” by William Stallings, 4<sup>th</sup> Edition, 2011, Pearson Education.

**REFERENCE BOOK**

“Firewalls and Internet Security” Repelling the Wily Hacker by William R. Cheswick, Steven M. Bellovin and Aviel D. Rubin, 2<sup>nd</sup> Edition, 2003, AT &T and Lumeta Corporation



<b>I SEMESTER</b>		
<b>DSCP - 1</b>	<b>Information Processing and Retrieval – Classification (Practical)</b>	<b>18UCLS1P</b>
<b>Hrs/Week:2</b>	<b>Hrs/ Sem: 30</b>	<b>Credit: 1</b>

1. Classifying documents according to Colon Classification (6<sup>th</sup> Revised Edition)
2. Dewey Decimal Classification: 19<sup>th</sup> Edition

#### Text Books:

- S.R.Ranganathan, Prolegomena to Library Classification, Sarada Ranganathan Endowment.
- S.R.Ranganathan, Colon Classification, Aisha Pathippagam.
- S.R.Ranganathan, Classification and Communication, Sarada Ranganathan Endowment.
- S.R.Ranganathan, Elements of Library Classification, Sarada Ranganathan Endowment.
- Chakrabati, B, Library Classification theory, Calcutta, World Press.
- Krishan Kumar: Theory of Classification, Vikas Publisher.

#### Reference Books:

- H.Bose, Universal Decimal Classification Theory and Practice, Sterling Publisher.
- A.A.N.Raju, Dewey Decimal Classification [DDC-20]: Theory and Practice:A Self Instructional Manual, T.R.Publications.
- M.S.Achdeva, Colon Classifications, Sterling Publisher.
- S.R.Ranganathan, Colon Classification, Asia Publishing House.
- Rowley, Jennifer E.Organizing Knowledge: an introduction to information retrieval 2<sup>nd</sup> ex. Ashgati, 1992.



<b>II SEMESTER</b>		
<b>DSCP - II</b>	<b>Information Processing and Retrieval – Cataloguing (Practical)</b>	<b>18UCLS2P</b>
<b>Hrs/Week:2</b>	<b>Hrs/ Sem: 30</b>	<b>Credits: 2</b>

1. Cataloguing documents using Classified Catalogue Code, Ed.5.

2. Anglo-American Cataloguing Rules – II (1978).

**Text Books:**

- Girja Kumar, Theory of Cataloguing, S.Chand & Company New Delhi.
- Krishna Kumar, an Introduction to AACR2, Vikas Publishing House Pvt Ltd.
- Ranganathan S.R.: Classified Catalogue Code with additional rules for dictionary catalogue code, Bangalore, 1989.
- Tripathi, S.M.: Modern Cataloguing: Theory and Practive, Agra, S.L.Agarwala, 1982.

**Reference Books:**

- Anand Ballabh, Library Classification & Cataloguing, Akansha Publishing House.
- Anglo-American Cataloguing Rules. 2<sup>nd</sup> ed. London, Library Association, 1988.



## II SEMESTER

<b>DSE - II</b>	<b>Communication Skills and Soft Skills</b>	<b>18UELS2A</b>
<b>Hrs/Week:6</b>	<b>Hrs/ Sem: 90 Hrs/Unit : 15</b>	<b>Credits: 3</b>

### Unit-1:

Soft Skills: Introduction-what are soft skills?- Importance of soft skills-Selling your soft skills-Attributes regarded as soft skills-social soft skills - thinking soft skills-Negotiating-Exhibiting your soft skills-Identifying your soft skills-Improving your soft skills -Will formal training enhance your soft skills-soft skills training - Train your self-Top 60 soft skills-Practicing soft skills-Measuring attitude.

### Unit-2:

Art of Listening, Reading, Speaking and Writing: Introduction-What is listening? - Benefits of active listening - Kinds of listening - Advantages of active listening - Listening tips. Reading is a cognitive process - Good readers are what they read - Benefits of reading - Different types of reading - Tips for effective reading - Difference stages of reading. Defining communication –Special features of communication - Communication process - Channels of communication - Formal communication network - Informal communication network (grapevine communication) - Art of Public Speaking. Importance of writing - Creative writing - Writing tips.

### Unit-3:

Body Language: Introduction - Body talk - Voluntary and involuntary body language - Forms of body language - Parts of body language - Origin of body language - Types of body language.

Group Discussion: Introduction – Meaning of GD – Why group discussion? Characters tested in GD – Tips on GD – Types of GD- Essential elements of GD – Difference characters in GD – Topics for GD.

### Unit-4:

Preparing CV / Resume: Introduction -Meaning - Difference among Bio-data, CV and Resume -The terms -The purpose of CV writing - Types of resumes.

Interview Skills: Introduction - why an interview? - Types of interview - Dress code at interview -

How to present well in interview -Tips to make a good impression in an interview - job interview -Basic tips - how to search for job effectively- Interview quotations.

### Unit-5:

Time Management: Introduction - Features of time - Three secrets to time management – Five steps to successful time management.

Stress Management: introduction - Meaning - Effects of stress - kinds of stress - Sources of stress.

### Text Books

- Dr.K.Alex, Soft Skills, S.Chand.



<b>SEMESTER - IV</b>			
<b>AR-4</b>	<b>CLASSICAL PROSE</b>		<b>18ULAR41</b>
<b>Hrs/ Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Hrs/ Unit: 18</b>	<b>Credits:4</b>

**Objectives:** To impart the moral values in the students and build their personality to make them better citizens to serve the society.

**Unit I:- Verses from 1 to 12 from (Sura - al - Hujraat)(Textbook - 1)**

من الآية "يا أيها الذين آمنوا لا تقدموا" إلى الآية "يا أيها الذين آمنوا اجتنبوا"

**Unit II:- Verses from 10 to 18 from (Sura - al - Hujraat)& verses from Surah Lqman from (12 to 19) (Textbook - 1)**

من الآية "يا أيها الناس إنا خلقناكم" إلى الآية "إن الله يعلم غيب السموات"

من الآية "ولقد آتينا لقمان الحكمة" إلى الآية "واقصد في مشيك"

**Unit III:- Collection and compilation of Quran and Hadeeth,**

**History of Imam Abu Hanifa, Malik, Asshafi, Ahmad, Bukhari,**

**Muslim, Abu Dawood, At-Tirmidi, An-Nasaee and Ibn-Majah**

(Textbook - 1)

**Unit IV:- Hadeeth 1 to 10 (Textbook - 2)**

من الحديث "لا تأكلوا بالشمال" - إلى الحديث "خيركم من تعلم القرآن"

**Unit V:-Hadeeth 11 to 20 (Textbook - 2)**

من الحديث "لا تمنعوا نساءكم" - إلى الحديث "حق المسلم على المسلم خمس"

### TEXTBOOK

1. Tafseer Suratul Hujuraath and from Suraah Luqman (verses from 12-19) A study material prepared by Dept. of Arabic, Sadakathullah Appa College, Rahmath Nagar, Tirunelveli-11

2. Hadeeth: AhadeethSahlah  
Available at: Islamic foundation Trust, 78, Perambur High Road,  
Perambur, Chennai- 600 012.



V SEMESTER			
DSC-10	History of Modern Arabic Literature		18UCAR54
Hrs/ Week: 5	Hrs/ Sem: 75	Hrs/ Unit: 15	Credits: 4

### Objective:

To introduce the prominent scholars who contributed to Arabic literature in the modern period.

### Unit I: (من الجزء الأول)

الموقف السياسي في الشرق الأوسط في القرنين الأخيرين - الطباعة والصحافة - محمود سامي البارودي - السيد جمال الدين الأفغاني - الشيخ محمد عبده - الشيخ محمد رشيد رضا - السيد مصطفى لطفى المنفلوطي

### Unit II: (من الجزء الأول)

- الشيخ محمد المويلحي - أمير الشعراء أحمد شوقي - شاعر النيل حافظ إبراهيم - شاعر القطرين خليل مطران - شكيب أرسلان

### Unit III: (من الجزء الثالث)

الدكتور محمد حسين هيكل - الدكتور أحمد أمين - سلامة موسى - الدكتور زكي مبارك - الدكتور محمد مندور - أبو القاسم الشابي

### Unit IV: (من الجزء الثالث)

على الجارم - الدكتور طه حسين - عباس محمود العقاد - توفيق الحكيم - الدكتور أحمد حسن الزيات - خير الدين الزركلي -

### Unit V: (من الجزء الثالث)

نجيب محفوظ - الدكتور يوسف السباعي - الشيخ بشارة الخوري - حسن البناء - السيد قطب - نازك الملائكة - الدكتور شوقي ضيف

### Textbook:

أعلام النثر والشعر في الأدب العربي الحديث ليوسف كوكن

### Selected Topics from الجزء الأول والثالث

Material Available at: Al Manar Books, 23, AA complex, Race course Road,  
Opp. Arabic College, Bus Stop, Khajah Nagar, Trichy - phone: 2420471, 9842367617



PART-IV- SKILL BASED ELECTIVE			
முன்றாம் பருவம்			
SBE 1	மனித உரிமைகள்		15 UTAS31
Hrs/Week : 3	Hrs/Sem : 45	Hrs/Unit : 9	Credits : 2

- நோக்கம்** : தனிமனிதனுடைய உரிமைகள் பற்றி மாணவர்களை அறியச் செய்தல்.
- அலகு- 1** : மனித உரிமைகள் - வகைகள் - வளர்ச்சிக் களங்கள்.
- அலகு - 2** : அடிப்படை உரிமைகள் - மனித உரிமைகளின் ஊற்றுக்கண் - மனித உரிமைகள் தொடர்பான இந்தியச் சட்டங்கள் - அமைப்புகள்.
- அலகு - 3** : மனித உரிமை ஆணையம் - அமைப்பும் செயல்பாடுகளும்.
- அலகு - 4** : கைது, வாரண்ட் விளக்கம் - கைது செய்யப்பட்டவர்களின் உரிமைகள் - மனித உரிமைகள் குறித்த சாசனங்கள்.
- அலகு - 5** : உலக மனித உரிமைகள் பிரகடனம் - பன்னாட்டு உடன்பாடு - பன்னாட்டு ஒப்பந்தங்கள்.

#### பாடநூல்கள்

பேரா.இராஜ முத்திருளாண்டி- 'மனித உரிமைகள்'  
41-பி,சிட்கோஇண்டஸ்ட்ரியஸ் எஸ்டேட்,  
அம்பத்தூர், சென்னை -600 098.

#### பார்வை நூல்கள்:

1. க.பொ. அகத்தியலிங்கம் - 'மனித உரிமைகள் தமிழ்ப் ' புத்தகாலயம், ப்ளாட் எண்.பு3.8,மாசிலாமணி தெரு, தி.நகர், சென்னை - 600 017.
2. வநா. விஸ்வநாதன் 'மனித உரிமைகள்-பாவை பப்ளிகேசன்ஸ், 142, ஜானி ஜான் கான் சாலை, இராணிப்பேட்டை, சென்னை -14.



முதல் பருவம்			
DSC-2	தற்கால இலக்கியம்		18UCTA12
Hrs/Week :5	Hrs/Sem :75	Hrs/Unit :15	Credits :4

**நோக்கம் :** தற்காலத்தமிழ் இலக்கியங்களை அறிமுகம் செய்தல்.

**அலகு -1 புதுக்கவிதை**

பாரதியார்	- குயில் பாட்டு
பாரதிதாசன்	- குடும்ப விளக்கு
ந.பிச்சமூர்த்தி	- சுமைதாங்கி
கண்ணதாசன்	- ஆதிமந்தி
கவிக்கோ	- பித்தன்

**அலகு - 2 உரைநடை**

பாரதியின் அறிவியல் பார்வை - டாக்டர்  
வா.செ.குழந்தைசாமி

**அலகு - 3 நாடகம்**

ஒளவை- இன்குலாப்

**அலகு - 4 சிறுகதைகள்**

முத்துக்கள் பத்து - புதுமைப்பித்தன்

**அலகு : 5 நாவல்**

ரெயினீஸ் ஐயர்தெரு- வண்ணநிலவன்

**பாடநூல்கள் :**

- 1) பாரதியின் அறிவியல் பார்வை - டாக்டர்வ.செ.குழந்தைசாமி  
பாரதிபதிப்பகம்,126/106, உஸ்மான் ரோடு,  
தியாகராஜநகர், சென்னை-600017.
- 2) ஒளவை- இன்குலாப்  
அன்னம் அகரம் பதிப்பகம்,  
மனைஎண் 1, நிர்மலாநகர், தஞ்சாவூர்-613007
- 3) முத்துக்கள் பத்து - புதுமைப்பித்தன்  
அம்ருதா பதிப்பகம்,  
எண் 12,3வது மெயின்ரோடு, இரண்டாம் குறுக்குத் தெரு,  
சி.ஐ.டி. நகர் கிழக்கு, சென்னை- 600035.
- 4) ரெயினீஸ் ஐயர் தெரு - வண்ணநிலவன்  
கிழக்குப் பதிப்பகம், 177/103 முதல் தளம்,  
லாயிட்ஸ் சாலை, ராயப்பேட்டை,சென்னை- 600014.

**பார்வைநூல்கள்:**

பாரதியார் கவிதைகள், பாரதிதாசன் கவிதைகள், அப்துல் ரகுமான் கவிதைகள்



	<b>PERSONALITY DEVELOPMENT</b>	
SBC	Hrs / Sem : 2 x 15 = 30	18USPD62
Hrs/ Week: 2		Credits: 2

**UNIT I**  
**PERSONALITY** - Definition - Determinants - Personality Traits - Theories of Personality - Importance of Personality Development. **SELF AWARENESS** - Meaning - Benefits of Self - Awareness - Developing Self - Awareness. **SWOT** - Meaning - Importance - Application - Components.

**UNIT - II**  
**SELF MONITORING** - Meaning - Advantages and Disadvantages self monitor - Self - monitoring and job performance. **PERCEPTION** - Definition - Factor influencing perception - Perception process. **ATTITUDE** - Meaning - Formation of attitude - Types of attitude - Measurement of Attitudes. **ASSERTIVENESS** - Meaning - Assertiveness in Communication - Assertiveness Techniques.

**UNIT - III**  
**TEAM BUILDING** - Meaning - Types of teams - Importance of Team building - Creating Effective Team. **LEADERSHIP** - Definition - Leadership style - Qualities of an Effective leader. **NEGOTIATION SKILLS** - Meaning - Principles of Negotiation - Types of Negotiation - The Negotiation Process. **CONFLICT MANAGEMENT** - Definition - Types of Conflict - Levels of Conflict.

**UNIT - IV**  
**COMMUNICATION** - Definition - Importance of communication - Process of communication - Barriers in communication - Overcoming Communication Barriers. **EMOTIONAL INTELLIGENCE**: Meaning - Components of Emotional Intelligence - Significance of managing Emotional intelligence. **STRESS MANAGEMENT** - Meaning - Sources of Stress - Symptoms of Stress - Consequences of Stress - Managing Stress.

**UNIT - V**  
**SOCIAL GRACES** - Meaning - Social Grace at Work - Acquiring Social Graces. **TABLE MANNERS** - Meaning - Table Etiquettes in Multicultural Environment - Do's and Don'ts of Table Etiquettes. **DRESS CODE** - Meaning - Dress Code for selected Occasions - Dress Code for an Interview. **GROUP DISCUSSION** - Meaning - Personality traits required for Group Discussion - Process of Group Discussion. **INTERVIEW** - Definition - Types of skills - Employer Expectations - Planning for the Interview - Interview Questions - Critical Interview Questions.

#### REFERENCE BOOKS:

1. Dr.S. Narayana Rajan, Dr. B. Rajasekaran, G. Venkadasalaphi, V. Vijuresh Nayaham and Herald M.Dhas, **Personality Development**, Publication Division, Manonmaniam Sundaranar University, Tirunelveli
2. Stephan P.Robbins, **Organisational Behaviour**, Tenth Edition, Prentice Hall of India Private Limited, New Delhi, 2008
3. Jit S. Chandan, **Organisational Behaviour**, Third Edition, Vikas Publishing House Private Limited, 2008
4. Dr.K.K. Ramachandran and Dr.K.K. Karthick, **From Campus to Corporate**, Macmillan Publishers India Limited, New Delhi, 2010.

