RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
New Scheme Based On AICTE Flexible Curricula
B.Tech. First Year
Branch- Common to All Disciplines

BT101	Engineering Chemistry	3L-0T-2P	4 Credits

Course Contents:

(i) Water – Analysis, Treatments and Industrial Applications (4 Lectures)
Sources, Impurities, Hardness & its units, Determination of hardness by EDTA method, Alkalinity & It's determination and related numerical problems.

(ii) Boiler problem & softening methods (4 Lectures)
Boiler troubles (Sludge & Scale, Priming & Foaming, Boiler Corrosion, Caustic Embrittlement), Softening methods (Lime-Soda, Zeolite and Ion Exchange Methods) and related numerical problems.

(iii)Lubricants and Lubrication (4 Lectures)
Introduction, Mechanism of lubrication, Classification of lubricants, significance & determination of Viscosity and Viscosity Index, Flash & Fire Points, Cloud & Pour Points, Aniline Point, Acid Number, Saponification Number, Steam Emulsification Number and related numerical problems.

(iv)Polymer & polymerization (4 Lectures)
Introduction, types of polymerisation, Classification, mechanism of polymerisation (Free radical & Ionic polymerization). Thermoplastic &Thermosetting polymers Elementary idea of Biodegradable polymers, preparation, properties & uses of the following polymers- PVC, PMMA, Teflon, Nylon 6, Nylon 6:6, Polyester phenol formaldehyde, Urea- Formaldehyde, Buna N, Buna S, Vulcanization of Rubber.

(v) Phase equilibrium and Corrosion (5 Lectures
Phase diagram of single component system (Water) Phase diagram of binary Eutectic System (Cu-Ag.) Corrosion: Types, Mechanisms & prevention.

(vi) Spectroscopic techniques and application (6 Lectures)
Principle, Instrumentation & Applications, electronics spectroscopy, Vibrational & Rotational Spectroscopy of diatomic molecules.

(vii) Periodic properties (4 Lectures)
Effective Nuclear Charge, Variations: S, P, d & f Orbital energies of atoms in periodic table, Electronics Configuration, atomic & Ionic sizes, electron affinity & electro negativity, Ploarizability & Oxidation States.

Course Outcomes

The concepts developed in this course will aid in quantification of several concepts in chemistry that have been introduced at the 10+2 levels in schools. Technology is being increasingly based on the electronic, atomic and molecular level modifications.

Quantum theory is more than 100 years old and to understand phenomena at nanometer levels, one has to base the description of all chemical processes at molecular levels. The course will enable the student to:

- Analyse microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.
- Rationalise bulk properties and processes using thermodynamic considerations.
- Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular

Dr. Kuma 18/08/2022

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BT103	English for Communication	3L-0T-2P	4 Credits

COURSE CONTENTS:

Unit-I

Identifying Common errors in writing: Articles, Subject-Verb Agreement, Prepositions, Active and Passive Voice, Reported Speech: Direct and Indirect, Sentence Structure.

Unit-II

Vocabulary building and Comprehension:

Acquaintance with prefixes and suffixes from foreign languages in English to form derivatives, synonyms, antonyms, Reading comprehension.

Unit-III

Communication:

Introduction, Meaning and Significance, Process of Communication, Oral and Written Communication, 7 c's of Communication, Barriers to Communication and Ways to overcome them, Importance of Communication for Technical students, nonverbal communication.

Unit-IV

Developing Writing Skills:

Planning, Drafting and Editing, Precise Writing, Précis, Technical definition and Technical description. Report Writing: Features of writing a good Report, Structure of a Formal Report, Report of Trouble, Laboratory Report, Progress Report.

Unit-V

Business Correspondence:

Importance of Business Letters, Parts and Layout; Application, Contents of good Resume, guidelines for writing Resume, Calling/ Sending Quotation, Order, Complaint, E-mail and Tender.

Books Recommended:

1. 'Technical Communication : Principles and practice', Meenakshi Raman and Sangeeta Sharma (Oxford)
2. 'Effective Business Communication', Krizan and merrier (Cengage learning)
3. 'Communication Skill, Sanjay Kumar and pushlata, OUP2011
4. "Practical English Usage Michael Swan OUP, 1995.
5. "Exercises in spoken English Parts I-III CIEFL, Hyderabad, Oxford University Press
6. On writing well, William Zinsser, Harper Resource Book 2001.
7. Remedial English Grammar, F.T. Wood,Macmillan2007.

Course Outcomes:

The student will acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

Communicative Language Laboratory:

Course objective: The language laboratory focuses on the practice of English through audio-visual aids and Computer software. It intends to enable the students to speak English correctly with confidence and intends to help them to overcome their inhibitions and self –consciousness while speaking in English.

Topics to be covered in the Language laboratory sessions:

1. Listening Comprehension.
2. Pronunciation, Intonation, Rhythm
3. Practising everyday dialogues in English
4. Interviews.
5. Formal Presentation

Final Assessment should be based on assignment, assessment, presentation and interview of each candidate.

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BT205	**Basic Computer Engineering**	**3L-0T-2P**	**4 Credits**

Course Contents:

UNIT I

Computer: Definition, Classification, Organization i.e. CPU, register, Bus architecture, Instruction set, Memory & Storage Systems, I/O Devices, and System & Application Software. Computer Application in e-Business, Bio-Informatics, health Care, Remote Sensing & GIS, Meteorology and Climatology, Computer Gaming, Multimedia and Animation etc.

Operating System: Definition, Function, Types, Management of File, Process & Memory. Introdcution to MS word, MS powerpoint, MS Excel

UNIT II

Introduction to Algorithms, Complexities and Flowchart, Introduction to Programming, Categories of Programming Languages, Program Design, Programming Paradigms, Characteristics or Concepts of OOP, Procedure Oriented Programming VS object oriented Programming. Introduction to C++: Character Set, Tokens, Precedence and Associativity, Program Structure, Data Types, Variables, Operators, Expressions, Statements and control structures, I/O operations, Array, Functions,

UNIT III

Object & Classes, Scope Resolution Operator, Constructors & Destructors, Friend Functions, Inheritance, Polymorphism, Overloading Functions & Operators, Types of Inheritance, Virtual functions. Introduction to Data Structures.

UNIT IV

Computer Networking: Introduction, Goals, ISO-OSI Model, Functions of Different Layers. Internetworking Concepts, Devices, TCP/IP Model. Introduction to Internet, World Wide Web, E-commerce

Computer Security Basics: Introduction to viruses, worms, malware, Trojans, Spyware and Anti-Spyware Software, Different types of attacks like Money Laundering, Information Theft, Cyber Pornography, Email spoofing, Denial of Service (DoS), Cyber Stalking, ,Logic bombs, Hacking Spamming, Cyber Defamation , pharming Security measures Firewall, Computer Ethics & Good Practices, Introduction of Cyber Laws about Internet Fraud, Good Computer Security Habits,

UNIT V

Data base Management System: Introduction, File oriented approach and Database approach, Data Models, Architecture of Database System, Data independence, Data dictionary, DBA, Primary Key, Data definition language and Manipulation Languages.

Cloud computing: definition, cloud infrastructure, cloud segments or service delivery models (IaaS, PaaS and SaaS), cloud deployment models/ types of cloud (public, private, community and hybrid clouds), Pros and Cons of cloud computing

List of Experiment

01. Study and practice of Internal & External DOS commands.
02. Study and practice of Basic linux Commands – ls, cp, mv, rm, chmod, kill, ps etc.
03. Study and Practice of MS windows – Folder related operations, My-Computer, window explorer, Control Panel,
04. Creation and editing of Text files using MS- word.
05. Creation and operating of spreadsheet using MS-Excel.
06. Creation and editing power-point slides using MS- power point
07. Creation and manipulation of database table using SQL in MS-Access.
08. WAP to illustrate Arithmetic expressions
09. WAP to illustrate Arrays.
10. WAP to illustrate functions.
11. WAP to illustrate constructor & Destructor
12. WAP to illustrate Object and classes

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ES401	**Energy & Environmental Engineering**	**3L-1T-0P**	**4 Credits**

The objective of this Course is to provide *an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application.*

Module 1: Introduction to Energy Science:

Introduction to energy systems and resources; Introduction to Energy, sustainability & the environment; Overview of energy systems, sources, transformations, efficiency, and storage; Fossil fuels (coal, oil, oil-bearing shale and sands, coal gasification) - past, present & future, Remedies & alternatives for fossil fuels - biomass, wind, solar, nuclear, wave, tidal and hydrogen, Sustainability and environmental trade-offs of different energy systems, possibilities for energy storage or regeneration (Ex. Pumped storage hydro power projects, superconductor-based energy storages, high efficiency batteries)

***Module2*: Ecosystems**

- Concept of an ecosystem; Structure and function of an ecosystem; Producers, consumers and decomposers; Energy flow in the ecosystem; Ecological succession; Food chains, food webs and ecological pyramids; Introduction, types, characteristic features, structure and function of the following ecosystem (a.)Forest ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

***Module 3*: Biodiversity and its conservation**

- Introduction – Definition: genetic, species and ecosystem diversity; Bio-geographical classification of India; Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values; Biodiversity at global, National and local levels; India as a mega-diversity nation; Hot-sports of biodiversity; Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

***Module 4:* Environmental Pollution**

- Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards; Solid waste Management: Causes, effects and control measures of urban and industrial wastes; Role of an individual in prevention of pollution; Pollution case studies; Disaster management: floods, earthquake, cyclone and landslides.

***Module 5:* Social Issues and the Environment**

- From Unsustainable to Sustainable development; Urban problems related to energy; Water conservation, rain water harvesting, watershed management; Resettlement and rehabilitation of people; its problems and concerns. Case Studies

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Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies Wasteland reclamation; Consumerism and waste products; Environment Protection Act; Air (Prevention and Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act; Issues involved in enforcement of environmental legislation; Public awareness.

Module 6: Field work

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

REFERENCE

1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.
2. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB).
3. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai,
4. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
5. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards', Vol I and II, Enviro Media (R)
6. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004), Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press.
7. Schaeffer, John (2007), Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living, Gaiam

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New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, V-Semester

ME502- Mechanical Vibrations

Unit 1: Fundamental Aspects of Vibrations: Vibration, main causes, advantages and disadvantages; engineering applications of vibration and noise; vector method of representing harmonic motion; characteristics of vibration, harmonic analysis and beats phenomenon, work done by harmonic forces on harmonic motion; periodic, non- harmonic functions- Fourier series analysis; evaluation of coefficients of Fourier series; elements of vibratory system; lumped and distributed parameter systems. **Undamped Free Vibrations:** Derivation of differential equation of motion: the energy method, the method based on Newton's second law of motion, and Rayleigh's method. Solution of differential equation of motion: Natural frequency of vibration. Systems involving angular oscillations: the compound pendulum.

Unit 2: Damped Free Vibrations: Viscous damping: coefficient of damping; damping ratio; under damped, over damped and critically damped systems; logarithmic decrement; frequency of damped free vibration; Coulomb or dry friction damping; frequency, decay rate and comparison of viscous and Coulomb damping; solid and structural damping; slip or interfacial damping.

Unit 3: Harmonically excited Vibration: One degree of freedom- forced harmonic vibration; vector representation of forces; excitation due to rotating and reciprocating unbalance; vibration Isolation, force and motion transmissibility; absolute and relative motion of mass (Seismic Instruments). Whirling Motion and Critical Speed : Whirling motion and Critical speed : Definitions and significance. Critical speed of a vertical , light flexible shaft with single rotor : with and without damping . Critical speed of a shaft carrying multiple discs (without damping), Secondary critical speed.

Unit 4: Systems With Two Degrees of Freedom : Un-damped free vibration of 2 d.o.f and Principal modes of vibration; torsion vibrations; Forced, Un-damped vibrations with harmonic excitation ; Coordinate coupling; Dynamic vibration absorber; torsion Vibration Absorber; Pendulum type of dynamic vibration.

Unit 5: Noise Engineering Subjective response of sound: Frequency and sound dependent human response; the decibel scale; relationship between, sound pressure level (SPL), sound power level and sound intensity scale; relationship between addition, subtraction and averaging, sound spectra and Octave band analysis; loudness; weighting networks; equivalent sound level, auditory effects of noise, hazardous noise, exposure due to machines and equipments; hearing conservation and damage risk criteria, daily noise doze.

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Noise: Sources, Isolation and Control: Major sources of noise on road and in industries, noise due to construction equipments and domestic appliances, industrial noise control, strategies-noise control at source (with or without sound enclosures), noise control along the path (with or without partitions and acoustic barriers); noise control at the receiver, ear defenders, earplugs, semi-insert protectors.

References:

1. Ambekar A.G.,' Mechanical Vibrations and Noise Engineering; PHI
2. Meirovitch Leonard; Element of Vibration Analysis; TMH
3. Dukikipati RV Srinivas J Text book of Mechanical Vibrations; PHI
4. Kelly SG and kudari SK; Mechanical Vibrations; Schaum Series;TMH
5. Thomson , W.T., Theory of Vibration with Applications , C.B.S Pub & distributors .
6. Singiresu Rao, 'Mechanical Vibrations , Pearson Education .
7. G.K. Grover, ' Mechanical Vibration , Nem chand and Bross , Roorkee

List of experiments (please expand it);

1.To find out effect of load on natural frequency of vibrations of a lever pin supported at one end carrying adjustable load on a vertical screwed bar and spring supported at some intermediate point (i) When the dead weight of rods is neglected and (ii) when their dead weight is taken into account .

2. To find out frequency of damped free vibration and rate of decay of vibration-amplitude in the system.

3. To find out natural frequency and damped free frequency of a torsion pendulum and , hence to find out coefficient of damping of the oil ;

4. To observe the phenomenon of 'whirl' in a horizontal light shaft and to determine the critical speed of the shaft.

5. To observe the mode shapes of a spring-connected, double pendulum and hence to demonstrate the phenomenon of beats.

6. To demonstrate the principle of tuned Undamped Dynamic Vibration Absorber and to determine the effect of mass-ratio (of main and auxiliary mass) on the spread of the resulting natural frequencies;

7. To take measurements of sound Pressure Level (SPL) and to carry out octave band analysis of a machine using Noise Level Meter.

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, VII-Semester

Departmental Elective ME- 702(C) Power Plant Engineering

Course Objectives:

After studying this course, students will be able to

1. Understand the conversion of renewable energy system into electrical power.
2. Design & enhance the performance of fossil fuel based power plant.
3. Analyze the nuclear power plant and its safety.
4. Design & enhance the performance of hydro based power plant.
5. Determine economics of the power plant of renewable and non renewable / nuclear power system

Syllabus:

Unit I: Introduction:

Introduction to methods of converting various energy sources to electric power, direct conversion methods renewable energy sources, solar, wind, tidal, geothermal, bio-thermal, biogas and hybrid energy systems, fuel cells, thermoelectric modules, MHD-Converter

Unit II: Fossil fuel steam stations:

Basic principles of sitting and station design, effect of climatic factors on station and equipment design, choice of steam cycle and main equipment, recent trends in turbine and boiler sizes and steam conditions, plant design and layout, outdoor and indoor plant, system components, fuel handling, burning systems, element of feed water treatment plant, condensing plant and circulating water systems, cooling towers, turbine room and auxiliary plant equipment., instrumentation, testing and plant heat balance.

Unit III: Nuclear Power Station:

Importance of nuclear power development in the world and Indian context, Review of atomic structure and radio activity, binding energy concept, fission and fusion reaction, fissionable and fertile materials, thermal neutron fission, important nuclear fuels, moderators and coolants, their relative merits, thermal and fast breeder reactors, principles of reactor control, safety and reliability features.

Unit IV: Hydro-Power Station:

Elements of Hydrological computations, rainfall run off, flow and power duration curves, mass curves, storage capacity, salient features of various types of hydro stations, component such as dams, spillways, intake systems, head works, pressure tunnels, penstocks, reservoir, balancing reservoirs, Micro and pico hydro machines, selection of hydraulic turbines for power stations, selection of site.

Unit V: Power Station Economics:

Estimation and prediction of load. Maximum demand, load factor, diversity factor, plant factor and their influence on plant design, operation and economics; comparison of hydro and nuclear power plants typical cost structures, simple problems on cost analysis, economic performance and tariffs, interconnected system and their advantages, elements of load dispatch in interconnected systems.

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References:

1- Nag PK; Power plant Engg; TMH
2- Al-Wakil MM; Power plant Technology; TMH
3- Sharma PC; Power plant Engg; Kataria and sons, Delhi
4- Domkundwar; Power Plant Engg; Dhanpatrai & sons.
5- Rajput RK; A text book of Power plant Engg.; Laxmi Publications.

Evaluation

Evaluation will be continuous an integral part of the class as well through external assessment.

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New Scheme of Examination as per AICTE Flexible Curricula

Mechanical Engineering, VI-Semester

Open Elective ME- 604 (C) Renewable Energy Technology

UNIT-I Solar Radiation:

Extra-terrestrial and terrestrial, radiation measuring instrument, radiation measurement and predictions. Solar thermal conversion: Basics, Flat plate collectors-liquid and air type. Theory of flat plate collectors, selective coating, advanced collectors, Concentrators: optical design of concentrators, solar water heater, solar dryers, solar stills, solar cooling and refrigeration.
Solar photovoltaic: Principle of photovoltaic conversion of solar energy; Technology for fabrication of photovoltaic devices; Applications of solar cells in PV generation systems; Organic PV cells.

UNIT-II Wind Energy:

Characteristics and measurement: Metrology of wind speed distribution, wind speed statistics, Weibull, Rayleigh and Normal distribution, Measurement of wind data, Energy estimation of wind regimes; **Wind Energy Conversion**: Wind energy conversion principles; General introduction; Types and classification of WECS; Power, torque and speed characteristics; power curve of wind turbine, capacity factor, matching wind turbine with wind regimes; Application of wind energy.

UNIT-III Production of biomass:

Photosynthesis-C3 & C4 plants on biomass production; Biomass resources assessment; Co2 fixation potential of biomass; Classification of biomass; Physicochemical characteristics of biomass as fuel Biomass conversion routes: biochemical, chemical and thermo chemical Biochemical conversion of biomass to energy: anaerobic digestion, biogas production mechanism, technology, types of digesters, design of biogas plants, installation, operation and maintenance of biogas plants, biogas plant manure-utilization and manure values. Biomass Gasification: Different types, power generation from gasification, cost benefit analysis of power generation by gasification.

UNIT-IV Small Hydropower Systems:

Overview of micro, mini and small hydro system; hydrology; Elements of turbine; Assessment of hydro power; selection and design criteria of turbines; site selection and civil works; speed and voltage regulation; Investment issue load management and tariff collection; Distribution and marketing issues. Ocean Energy: Ocean energy resources, ocean energy routs; Principle of ocean thermal energy conversion system, ocean thermal power plants. Principles of ocean wave energy and Tidal energy conversion.

UNIT-V Geothermal Energy:

Origin of geothermal resources, type of geothermal energy deposits, site selection geothermal power plants; Hydrogen Energy: Hydrogen as a source of energy, Hydrogen production and storage. Fuel Cells: Types of fuel cell, fuel cell system and sub-system, Principle of working, basic thermodynamics

References:

1. Kothari, Singal & Rajan; Renewable Energy Sources and Emerging Technologies, PHI Learn
2. Khan, B H, Non Conventional Energy, TMH.
3. Sukhatme and Nayak, Solar Energy, Principles of Thermal Collection and Storage, TMH.
4. Tiwari and Ghosal, Renewable Energy Resources: basic principle & application, Narosa Publ

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7. Abbasi Tansoem and Abbasi SA; Renewable Energy Sources; PHI Learning
8. Ravindranath NH and Hall DO, Biomass, Energy and Environment, Oxford University Press.
9. Duffie and Beckman, Solar Engineering of Thermal Process, Wiley
10. Nikolai, Khartchenko; Green Power; Tech Book International
11. Tester, Sustainable Energy-Choosing Among Options, PHI Learning.
12. Godfrey Boyle, Renewable Energy: Power for a sustainable future, Oxford OUP.

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, VIII-Semester

ME 801- Refrigeration & Air Conditioning

Course Objectives

After studying this course,students will be able to:

1. Learn the basic concepts and principles of refrigeration and air conditioning.
2. Learn the fundamental analysis methodology of refrigeration.
3. Learn the basic process and systems of air conditioning.
4. Will apply the course knowledge to do a design project of HVAC system.

Course Content

Unit-I Introduction: Principles and methods of refrigeration, freezing; mixture cooling by gas reversibleexpansion, throttling, evaporation, Joule Thomson effect and reverse Carnot cycle; unit of refrigeration, coefficient of performance, vortex tube & thermoelectric refrigeration, adiabatic demagnetization; air refrigeration cycles- Joule's cycle Boot-strap cycle, reduced ambient cycle and regenerative cooling cycles.

Unit-II Vapour compression system: Vapor compression cycle, p-h and t-s diagrams, deviations fromtheoretical cycle, sub-cooling and super heating, effects of condenser and evaporator pressure on cop; multi-pressure system: removal of flash gas, multiple expansion & compression with flash inter cooling; low temperature refrigeration: production of low temperatures, cascade system, dry ice, production of dry ice, air liquefaction system,.

Unit-III (a) **Vapour absorption system**: Theoretical and practical systems such as aqua-ammonia, Electrolux & other systems;

(b) **Steam jet refrigeration**: Principles and working, simple cycle ofoperation, description and working of simple system,

(c)**Refrigerants:** nomenclature & classification, desirable properties, common refrigeration, comparative study, leak detection methods, environment friendly refrigerants and refrigerant mixtures, brine and its properties

Unit-IV Psychometric: Calculation of psychrometric properties of air by table and charts;psychrometric processes: sensible heating and cooling, evaporative cooling, cooling and dehumidification, heating and humidification, mixing of air stream, sensible heat factor; principle of air conditioning, requirements of comfort air conditioning, ventilation standards,

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infiltrated air load, fresh air load human comfort, effective temperature & chart, heat production & regulation of human body.

Unit-V Air conditioning : Calculation of summer & winter air conditioning load, bypass factor ofcoil, calculation of supply air rate & its condition, room sensible heat factor, grand sensible heat factor, effective sensible heat factor, dehumidified air quantity. Problems on cooling load calculation. Air distribution and ventilation systems

Evaluation:

Evaluation will be continuous and integral part of the class as well as through external assessment.

References:

1. Arora CP; Refrigeration and Air Conditioning; TMH
2. Sapali SN; Refrigeration and Air Conditioning; PHI
3. Ananthanarayan; Basic Refrigeration and Air conditioning; TMH
4. Manohar Prasad; Refrigeration and Air Conditioning; New Age Pub
5. Ameen; Refrigeration and Air Conditioning; PHI
6. Pita ; Air conditioning Principles and systems: an energy approach; PHI
7. Stoecker W.F, Jones J; Refrigeration and Air conditioning; McGH, Singapore
8. Jordan RC and Priester GB Refrigeration and Air Conditioning, PHI USA

List of Experiments:

1. General Study of vapor compression refrigeration system.
2. General Study of Ice Plant
3. General Study and working of cold storage
4. General Study Trane Air Condition (Package Type).
5. General Study of Electrolux Refrigeration
6. General Study One tone Thermax refrigeration unit.
7. General Study of Water cooler
8. General Study of Psychrometers (Absorption type)
9. General Study of Leak Detectors (Halide Torch).
10. General Study and working of Gas charging Rig.
11. General Study of window Air Conditioner.
12. General Study and working of Vapor compression Air conditioning Test rig.
13. Experimentation on Cold Storage of Calculate COP & Heat Loss.
14. Experimentation on Vapor compression Air Conditioning test rig.
15. Changing of Refrigerant by using Gas Charging Kit.

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New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, VIII-Semester

Departmental Elective ME 802(A) Automobile Engineering

COURSE OBJECTIVES

The students will be made to learn.

- The anatomy of the automobile in general.
- The location and importance of each part of automobile.
- The functioning of the engine and its accessories, gear box, clutch, brakes, steering, axles and wheels, suspension, frame, springs and other connections.
- The effect of automobile emissions on environment and how to control pollution.

Course Contents:

Unit-I: Chassis & Body Engg: Types, Technical details of commercial vehicles, types of chassis, layout, types of frames, testing of frames for bending & torsion on unutilized body frame, vehicle body andtheir construction, driver's visibility and methods for improvement, safety aspects of vehicles, vehicleaerodynamics, optimization of body shape, driver's cab design, body materials, location of engine, frontwheel and rear wheel drive, four wheel drive.

Unit-II: Steering System: front axle beam, stub axle, front wheel assembly, principles of types of wheelalignment, front wheel geometry viz. camber, Kingpin inclination, castor, toe-in and toe-out, conditionfor true rolling motion, centre point steering, directional stability of vehicles, steering gear, powersteering, slip angle, cornering power, over steer & under steer, gyroscopic effect on steering gears.

Unit-III: Transmission System: Function and types of clutches, single plate, multi-plate clutch, roller &spring clutch, clutch lining and bonding, double declutching, types of gear boxes, synchroniser, gearmaterials, determination of gear ratio for vehicles, gear box performance at different vehicle speed,automatic transmission, torque converters, fluid coupling, principle of hydrostatic drive, propeller shaft,constant velocity universal joints, differential gear box, rear axle construction.

Unit-IV: Suspension system : Basic suspension movements, Independent front & rear suspension,shock absorber, type of springs: leaf spring, coil spring, air spring, torsion bar, location of shackles,power calculations, resistance to vehicle motion during acceleration and breaking, power & torquecurve, torque & mechanical efficiency at different vehicle speeds, weight transfer, braking systems, disctheory, mechanical, hydraulic & pneumatic power brake systems, performance, self-energisation, air-bleedingof hydraulic brakes, types of wheels and tyres, tyre specifications, construction and materialproperties of tyres& tubes.

Hitesh Koshti

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(HOD)
ME

Unit-V: Electrical and Control Systems: Storage battery, construction and operation of lead acid battery,testing of battery, principle of operation of starting mechanism, different drive systems, starter relayswitch, regulator electric fuel gauge, fuel pump, horn, wiper, lighting system, head light dazzling,signaling devices, battery operated vehicles, choppers, importance of maintenance, scheduled andunscheduled maintenance, wheel alignment, trouble Shooting probable causes & remedies of varioussystems, microprocessor based control system for automobile, intelligent automobile control systems.

Unit-VI: Emission standards and pollution control: Indian standards for automotive vehicles-Bharat I, II, III, IV, Euro I to Euro-VI norms, fuel quality standards, environmental management systems forautomotive vehicles, catalytic converters, fuel additives, and modern trends in automotive engineefficiency and emission control.

References:

1. Crouse , Automotive Mechanics TMH.
2. Srinivasan S; Automotive engines; TMH
3. Gupta HN; Internal Combustion Engines; PHI;
4. Joseph Heitner, Automotive Mechanics, Principles and Practices, CBS Pub.
5. Kripal Singh, Automotive Engineering Khanna Pub.
6. Newton &Steeds , Automotive Engineering
7. Emission standards from BIS and Euro –I to Euro-VI

Hitesh Koshti

(HoD)
ME

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Mechanical Engineering, VIII-Semester

Open Elective ME 803(C) Entrepreneurship and Management Concepts

Course Objective:

To familiarize the students with the concepts and applications of Management, Marketing, Productivity & Entrepreneurship in competitive world.

Unit-I

System Concepts: Types, definition & characteristics; supra & subsystems, key component; boundary & interface complexity; feedback (pull) & feed forward (push) controls, open flexible-adaptive system, computer as closed system, law of requisite variety; system coupling, stresses and entropy; functional & cross functional system; Steven Alter's nine element work system model and its comparison with IPO (input-processing-output) model, structure and performance of work systems leading to customer delight.

Unit-II

Management: Importance, definition and functions; schools of theories, knowledge driven learning organization and e-business; environment, uncertainty and adaptability; corporate culture, difficulties and levels of planning, BCG matrix, SWOT analysis, steps in decision making, structured and unstructured decision; dimensions of organizations, size/specialization, behavior formalization, authority centralization, departmentalization, span and line of control, technology and Minzberg organization typology, line, staff & matrix organization, coordination by task force, business process reengineering and process of change management, HR planning placement and training, MIS; attitudes and personality trait, overlap and differences between leader & manager, leadership grid, motivation, Maslow's need hierarchy and Herzberg two factor theory, expectation theory, learning process, team work and stress management.

Unit-III

Marketing: Importance, definition, core concepts of need want and demand, exchange & relationships, product value, cost and satisfaction (goods and services) marketing environment; selling, marketing and societal marketing concepts; four P's, product, price, placement, promotion; consumer, business and industrial market, market targeting, advertising, publicity, CRM and market research. Finance: Nature and scope, forms of business ownerships, balance sheet, profit and loss account, fund flow and cash flow statements, breakeven point (BEP) and financial ratio analysis, pay-back period, NPV and capital budgeting.

Unit-IV

Productivity and Operations: Productivity, standard of living and happiness, types of productivity, operations (goods and services) Vs project management, production processes and layouts, steps in method improvement, time measurement, rating and various allowances; standard time and its utility,

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(HOD)
ME

predetermined motion and time method, product and process specification, TQM, cost of quality, introduction to lean manufacturing (JIT), QFD, TPM & six sigma quality.

Unit V

Entrepreneurship : Definition and concepts, characteristics, comparison with manager, classification, theories of entrepreneur, socio, economic, cultural and psychological; entrepreneur traits and behavior, roles in economic growth, employment, social stability, export promotion and indigenization, creating a venture, opportunity analysis competitive and technical factors, sources of funds, entrepreneur development program.

Evaluation:

Evaluation will be continuous an integral part of the class followed by the final examination .

References:

1. Daft R; The new era of management; Cengage.
2. Bhat Anil, Arya kumar; Management: Principles,Processes and Practices; Oxford higheredu.
3. Mukharji R.S.,Agrawal N.K.; Entrepreneurship and Management Concepts,Technocrats Publication
4. Davis & Olson; Management Information System; TMH.
5. Steven Alter; Information systems, Pearson, www.stevenalter.com
6. Kotler P; Marketing management; 6- Khan, Jain; Financial Management; 7- ILO; Work study;ILO.
7. Mohanty SK; Fundamental of Entrepreneurship; PHI.

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(HOD)
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CHAMELI DEVI GROUP OF INSTITUTION, INDORE

DEPARTMENT OF CIVIL ENGINEERING

PROGRAM	Professional Ethics	Gender	Human Values	Environment Sustainaibility
ODD Semester	BT 204 : Basic Civil Engineering & Mechanics			CE 703 (C) : Integrated Waste Management
	CE 304 : Building Planning & Architecture			
	CE 702 (D) : Structural Design and Drawing (RCC-II)			
Even Semester	CE 601 : Structural Design and Drawing (RCC-I)			BT 401 : Energy & Environmental Engineering
	CE-801 : Design of Steel Structures			CE 602 : Environmental Engineering I
				CE 803 (D) : Integrated Water Management

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New Scheme Based On AICTE Flexible Curricula

B. Tech. First Year

Branch- Common to All Disciplines

BT204	Basic Civil Engineering & Mechanics	3L-0T-2P	4 Credits

Course Contents:

Unit I Building Materials & Construction

Stones, bricks, cement, lime, timber-types, properties, test & uses, laboratory tests concrete and mortar Materials: Workability, Strength properties of Concrete, Nominal proportion of Concrete preparation of concrete, compaction, curing.

Elements of Building Construction, Foundations conventional spread footings, RCC footings, brick masonry walls, plastering and pointing, floors, roofs, Doors, windows, lintels, staircases – types and their suitability

Unit II Surveying & Positioning:

Introduction to surveying Instruments – levels, thedolites, plane tables and related devices. Electronic surveying instruments etc. Measurement of distances – conventional and EDM methods, measurement of directions by different methods, measurement of elevations by different methods. Reciprocal leveling.

Unit III Mapping & sensing:

Mapping details and contouring, Profile Cross sectioning and measurement of areas, volumes, application of measurements in quantity computations, Survey stations, Introduction of remote sensing and its applications.

Engineering Mechanics

Unit IV

Forces and Equilibrium: Graphical and Analytical Treatment of Concurrent and non-concurrent Co- planner forces, free Diagram, Force Diagram and Bow's notations, Application of Equilibrium Concepts: Analysis of plane Trusses: Method of joints, Method of Sections. Frictional force in equilibrium problems

Unit – V

Centre of Gravity and moment of Inertia: Centroid and Centre of Gravity, Moment Inertia of Area and Mass, Radius of Gyration, Introduction to product of Inertia and Principle Axes. Support Reactions, Shear force and bending moment Diagram for Cantilever & simply supported beam with concentrated, distributed load and Couple.

Reference Books:

1. S. Ramamrutam & R.Narayanan: Basic Civil Engineering, Dhanpat Rai Pub.
2. Prasad I.B., Applied Mechanics, Khanna Publication.
3. Punmia, B.C., Surveying, Standard book depot.
4. Shesha Prakash and Mogaveer; Elements of Civil Engg & Engg. Mechanics; PHI
5. S.P,Timoshenko, Mechanics of stricture, East West press Pvt.Ltd.
6. Surveying by Duggal – Tata McGraw Hill New Delhi.
7. Building Construction by S.C. Rangwala- Charotar publications House, Anand.
8. Building Construction by Gurcharan Singh- Standard Book House, New Delhi
9. Global Positioning System Principles and application- Gopi, TMH
10. R.C. Hibbler – Engineering Mechanics: Statics & Dynamics.
11. A. Boresi & Schmidt- Engineering Mechines- statics dynamics, Thomson' Books
12. R.K. Rajput, Engineering Mecha[illegible] Chand & Co.

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w.e.f. July 2018

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New Scheme Based On AICTE Flexible Curricula

Civil Engineering, III-Semester

CE304 Building Planning & Architecture

UNIT-I

Drawing of Building Elements- Drawing of various elements of buildings like various types of footing, open foundation, raft, grillage, pile and well foundation, Drawing of frames of doors, window, various types of door, window and ventilator, lintels and arches, stairs and staircase, trusses, flooring, roofs etc.

UNIT-II

Building Planning- Classification of buildings, Provisions of National Building Codes and Rules, Building bye-laws, open area, Setbacks, FAR terminology, Design and drawing of Building, Design concepts and philosophies, Preparing sketch plans and working drawings of various types of buildings like residential building, institutional buildings and commercial buildings, site plans, presentation techniques, pictorial drawings, perspective and rendering, model making, introduction to computer aided design and drafting, Applying of principle of architectural composition (i.e. unity, contrast, etc.), Principles of planning, orientation in detailed drawings.

UNIT-III

Building Services- Introduction of Building Services like water supply, sewerage and drainage systems, sanitary fittings and fixtures, plumbing systems, principles of internal & external drainage systems, principles of electrification of buildings, intelligent buildings, elevators & escalators their standards and uses, air-conditioning systems, fire-fighting systems, building safety and security systems, ventilation and lightening and staircases, fire safety, thermal insulation, acoustics of buildings.

UNIT-IV

Principles of architectural design- Definition of architecture, factors influencing architectural development, characteristics features of style, historic examples, creative principles.

Principles of architectural composition– Unity, balance, proportion, scale, rhythm, harmony, Accentuation and contrast.

Organising principles in architecture– Symmetry, hierarchy, axis, linear, concentric, radial, and asymmetric grouping, primary and secondary masses, Role of colour, texture, shapes/ forms in architecture.

Architectural space and mass, visual and emotional effects of geometric forms, space activity and tolerance space. Forms related to materials and structural systems.

Elements of architecture : Functions – Pragmatic utility, circulatory function, symbolic function, Physiological function. Structure – Physical structure, Perceptual structure. Space in architecture Positive and negative space. Aesthetics: Visual perception. Protective: Protection from climate andother elements, architecture a part of the environment. Comfort factors.

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UNIT-V

Perspective Drawing and Town Planning- Elements of perspective drawing involving simple problems, one point and two point perspectives, energy efficient buildings.
Concepts of master plan, structure plan, detailed town planning scheme and action plan, estimating future needs - planning standards for different land use, allocation for commerce, industries, public amenities, open areas etc., planning standards for density distributions, density zones, planning standards for traffic network, standard of roads and paths, provision for urban growth, growth models, plan implementation, town planning legislation and municipal acts, panning of control development schemes, urban financing, land acquisition, slum clearance schemes, pollution control aspects

References Books:

1. Shah, Kale &Patki; Building Design and Drawing; TMH
2. Malik &Meo; Building Design and Drawing
3. W B Mckay,OrientBlackswan Building Construction Vol 1 -4, Pearson
4. Gurucharan Singh and Jagdish Singh, Building Planning, Designing and Scheduling, Standard Publishers Distributors.
5. Layal JS, Dongre A, Building Design and Drawing, SatyaPrakashan
6. Ghose D.N., Civil Engineering Design and Drawing, CBS publisher
7. Das B M, Principles of Foundation Engineering, Cengage Learning.
8. Agrawal S. C., Architecture and Town Planning, DhanpatRai& Co.
9. S.C. Rangwala, Town Planning, Charotar Publishing House.
10. Lewis Keeble, Principles and Practice of Town and Country Planning.
11. Rame Gouda, Principles & Practices of Town Planning, University of Mysore, ManasaGangotri.

List of Experiments

1. Sketches of various building components.
2. Drawing of various building components containing doors, windows ventilators, lintels and arches stairs foundations etc.
3. Drawings for services and interiors of buildings.
4. Drawings containing detailed planning of one/two bed room residential building (common to all student)
5. Drawing of residential and institutional building (Each student performs a different drawing).
6. Use of Auto CAD for preparation of drawings.

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VII-Semester

Departmental Elective CE 702(D) Structural Design and Drawing (RCC-II)

Unit – I

Design of Multistory Buildings - Sway and nonsway buildings, Shear walls and other bracing elements.

Unit II

Design of Earth Retaining Structures: Cantilever and counter fort types retaining walls.

Unit - III

Water Tanks: Tanks on ground and underground tanks: Square, rectangular, circular tanks, Overhead tanks: square, rectangular, circular & intze tanks.

Unit – IV

Design of Silos and Bunkers

Unit - V

T-beam & Slab bridges- for highway loading (IRC Loads). Prestressing concepts materials, systems of prestressing & losses Introduction to working & limit State Design.

Suggested Books: - 1. R.C.C. by O.P. Jain Vol. II

2. R.C.C. by B.C. Punmia

3. Essentials of Bridge engineering – D.J. Victor

4. Bridge Engineering – Ponnuswamy

5. Advanced R.C.C. Design by N.K. RAJU

6. N.Krishna Raju, Prestressed Concrete, Tata Mc Graw Hill, New Delhi.

7. Pre stresses concrete – T.Y. Lin

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New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VII-Semester

Open Elective CE 703(C) Integrated Waste Management

(L-T-P: 3-0-0, Credit: 3)

Course Objectives:

O1: To Aware about the problems associated with Municipal solid waste(MSW) and their effective management.
O2: To understand the components of Integrated solid waste management system.
O3: To learn about recycling, reuse and reduce, recover of solid wastes and Transfer station.
O4: To examine the operation of a resource recovery facility, waste-to-energy strategies.
O5: To study the design and operation of a municipal solid waste composting and land-filling.

UNIT I: INTRODUCTION OF SOLID WASTES

Definition of solid waste, garbage, rubbish-Sources and Types of solid wastes. Characteristics of Solid Wastes: Physical, chemical and biological characteristics- Problems occur due to improper disposal of solid wastes.

UNIT II: INTEGRATED SOLID WASTE MANAGEMENT

Definition- Reduction, reuse, recycling and recovery principles of waste management- Functional elements of integrated solid Waste management- Waste generation and handling at Source-Collection of solid wastes- Collection methods and services- guidelines for collection route layout.

UNIT III: INTRODUCTION OF TRANSFER STATION

Transfer Station-Processing and segregation of the solid waste- various methods of material segregation. Importance of Transfer Stations. Site selection of transfer stations.

UNIT IV: PROCESSING AND TRANSFORMATION OF SOLID WASTES

Composting: definition-methods of composting-advantages of composting. Incineration: definition-methods of incineration-advantages and disadvantages of incineration.

UNIT V: DISPOSAL OF SOLID WASTE

Volume reduction, Open dumping, land filling techniques. Landfills: Classification-Design and Operation of landfills, Land Farming, Deep well injection.

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Course Outcomes:

After studying this course, students will be able to:

CO1: Review the components of solid waste management system as per need of particular locality, town or city.

CO2: Be aware of the significance of recycling, reuse and reduction and recovery of solid wastes.

CO3: Develop an insight into the collection, transfer, and transport of municipal solid waste.

CO4: Understand the importance and operation of a resource recovery facilities like waste-to-energy Technologies-Biochemical and thermochemical.

CO5: Understand the design and operation of a municipal solid waste composting and landfilling.

Text Books:

1. George Tchobanoglous, Hilary Theisen and Samuel A Vigil, Integrated Solid Waste management, Tata McGraw Hill
2. Ramachandra T.V., Management of Municipal Solid Waste, 2009; by The Energy and Resource Institute, TERI
3. Sasikumar, K, Gopi Krishna, Sanoop, Solid Waste Management; 2009, PHI.

Reference Books:

1. Manual on Solid Waste Management, prepared by The Central Public Health and Environmental Engineering Organization(CPHEEO), India
2. MSW Management Rules 2016, Govt. of India, available online at CPCB website

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Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

Branch- Common to All Discipline

ES401	Energy & Environmental Engineering	3L-1T-0P	4 Credits

The objective of this Course is to provide *an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application.*

Module 1: Introduction to Energy Science:

Introduction to energy systems and resources; Introduction to Energy, sustainability & the environment; Overview of energy systems, sources, transformations, efficiency, and storage; Fossil fuels (coal, oil, oil-bearing shale and sands, coal gasification) - past, present & future, Remedies & alternatives for fossil fuels - biomass, wind, solar, nuclear, wave, tidal and hydrogen; Sustainability and environmental trade-offs of different energy systems; possibilities for energy storage or regeneration (Ex. Pumped storage hydro power projects, superconductor-based energy storages, high efficiency batteries)

***Module2*: Ecosystems**

- Concept of an ecosystem; Structure and function of an ecosystem; Producers, consumers and decomposers; Energy flow in the ecosystem; Ecological succession; Food chains, food webs and ecological pyramids; Introduction, types, characteristic features, structure and function of the following ecosystem (a.)Forest ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

***Module 3*: Biodiversity and its conservation**

- Introduction – Definition: genetic, species and ecosystem diversity; Bio-geographical classification of India; Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values; Biodiversity at global, National and local levels; India as a mega-diversity nation; Hot-sports of biodiversity; Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; Endangered and endemic species of India; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

***Module 4:* Environmental Pollution**

- Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards; Solid waste Management: Causes, effects and control measures of urban and industrial wastes; Role of an individual in prevention of pollution; Pollution case studies; Disaster management: floods, earthquake, cyclone and landslides.

***Module 5:* Social Issues and the Environment**

- From Unsustainable to Sustainable development; Urban problems related to energy; Water conservation, rain water harvesting, watershed management; Resettlement and rehabilitation of people; its problems and concerns. Case Studies
Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies Wasteland reclamation; Consumerism and waste products; Environment Protection Act; Air (Prevention and Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act; Issues involved in enforcement of environmental legislation; Public awareness.

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Module 6: Field work

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

REFERENCE

1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.
2. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB).
3. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai,
4. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
5. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards', Vol I and II, Enviro Media (R)
6. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004), Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press.
7. Schaeffer, John (2007), Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living, Gaiam

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VI-Semester

CE601- Structural Design & Drawing (RCC-I)

Structural Design & Drawing (RCC-I)

Unit - I

Basic Principles of Structural Design: Assumptions, Mechanism of load transfer, Various properties of concrete and reinforcing steel, Introduction to working stress method and limit state methods of design, partial safety factor for load and material. Calculation of various loads for structural design of singly reinforced beam, Partial load factors.

Unit - II

Design of Beams: Doubly reinforced rectangular & Flanged Beams, Lintel, Cantilever, simply supported and continuous beams, Beams with compression reinforcement: Redistribution of moments in continuous beams, Circular girders: Deep beams. Design of beam for shear and bond.

Unit-III

Design of Slabs: Slabs spanning in one direction. Cantilever, Simply supported and Continous slabs, Slabs spanning in two directions, Circular slabs, Waffle slabs, Flat slabs, Yield line theory.

Unit -IV

Columns & Footings: Effective length of columns, Short and long cloumns- Square, Rectangular and Circular columns, Isolated and combined footings, Strap footing, Columns subjected to axial loads and bending moments (sections with no tension), Raft foundation.

Unit -V

Staircases: Staircases with waist slab having equal and unequal flights with different support conditions,Slabless tread-riser staircase.

NOTE :- All the designs for strength and serviceability should strictly be as per the latest version of IS:456. Use of SP-16 (Design aids)

Laboratory Work: Laboratory work will be based on the above course as required for engineering projects.

Reference Books: -

1. Plain & Reinforced Concrete Vol. I & II – O.P. Jain & Jay Krishna
2. Limit State Design by P.C.Varghese ; Prentice Hall of India, New Delhi
3. Design of Reinforced Concrete Elements by Purushothman; Tata McGraw Hill, New Delhi
4. Reinforced Cement Concrete by Gupta & Mallick, Oxford and IBH

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New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VI-Semester

CE602- Environmental Engineering-I

Environmental Engineering-I

Unit – I

Estimation of ground and surface water resources. quality of water from different sources, demand & quantity of water, fire demand, water requirement for various uses, fluctuations in demand, forecast of population.

Unit – II

Impurities of water and their significance, water-borne diseases, physical, chemical and bacteriological analysis of water, water standards for different uses. Intake structure, conveyance of water, pipe materials, pumps - operation & pumping stations.

Unit – III

Water Treatment methods-theory and design of sedimentation, coagulation, filtration, disinfection, aeration & water softening, modern trends in sedimentation & filtration, miscellaneous methods of treatment.

Unit – IV

Sewerage schemes and their importance, collection & conveyance of sewage, storm water quantity, fluctuation in sewage flow, flow through sewer, design of sewer, construction & maintenance of sewer, sewer appurtenances, pumps & pumping stations.

Unit – V

Characteristics and analysis of waste water, recycles of decomposition, physical, chemical & biological parameters. Oxygen demand i.e. BOD & COD, TOC, TOD, Th OD, Relative Stability, population equivalent, instrumentation involved in analysis, natural methods of waste water disposal i.e. by land treatment & by dilution, self purification capacity of stream, Oxygen sag analysis.

Reference Books: -

1. Water Supply Engineering by B.C. Punmia - Laxmi Publications (P) Ltd. New Delhi
2. Water Supply & Sanitary Engg. by G.S. Birdi - Laxmi Publications (P) Ltd. New Delhi
3. Water & Waste Water Technology by Mark J.Hammer - Prentice - Hall of India, New Delhi
4. Environmental Engineering - H.S. Peavy & D.R.Rowe-Mc Graw Hill Book Company,New Delhi
5. Water Supply & Sanitary Engg. by S.K. Husain
6. Water & Waste Water Technology - G.M. Fair & J.C. Geyer
7. Relevant IS

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New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VIII-Semester

CE801- Design of Steel Structures

UNIT I: Basis of Structural Design and Connection Design

Introduction; Metallurgy of steel; Structural properties of steel; Design philosophies; Limit state method; Partial load factors; Loading and load combination on structures; Local buckling and section classification.

Types of connections; Welded connections; Types of joints and welds; Connection design; Concentric connection; Eccentric connections; Truss connections; Bolted connections; Force transfer mechanism; Failure mechanism; Analysis of bolt groups; Beam column connections, shear connection; Moment connection.

UNIT II: Design of Compression and Tension Members

Types of tension member; Behaviour of tension members; Factors affecting the strength of tension members; Design of tension member; for yielding; Net section rupture; Block shear; Tension splices; Lug angles; Concept of shear lag.

Types of compression members; Basis of current codal provision for compression member design; Slenderness ratio; Elastic buckling; Strength curves; Design of compression members.

UNIT III: Design of Flexural Members

Beam types; Lateral stability of beams; Lateral torsional buckling of symmetric beams; Design strength of Laterally supported and Unsupported beams in bending; Shear strength of steel beams; Web buckling and crippling; Design of beams; Built-up beams; Design of plate girders; Types of stiffeners; Flange and web splices; Design of beam-columns subjected to combined tension and bending.

UNIT IV: Design of Columns and Column Bases

Design of single section and compound section ; Design of laced and battened type columns; Design of column bases; Slab base; Gusseted base; Grillage foundation

UNIT V: Design of Industrial Buildings

Introduction, Frames; Multistory frames; Various types of trusses and their selection; Design of purlin and elements of truss; Effect of wind loads on purlin and truss; Bracing systems ,Design of Gantry Girder ,

References:

1. Gambhir M. L., Fundamentals of Structural Steel Design, McGraw Hill Education., First edition, 2017.
2. Dayaratnam P., Design of Steel Structures, A. H. Wheeler & Co. Ltd., Allahabad, 2008
3. Arya and Ajmani, Design of Steel Structures, NemChand Brothers, Roorkee, 2007
4. Punmia B.C., Ashok Kumar Jain and Arun Kumar Jain, Design of Steel Structures, Arihant Publications, Bombay, 2008

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New Scheme Based On AICTE Flexible Curricula

Civil Engineering, VIII-Semester

Open Elective CE 803(D) Integrated Water Management

Course Objectives

1. To study the paradigm shift in water management with global and national perspectives of water crisis. It also aims to understand the concepts of 'blue water', 'green water' and 'virtual water' and their roles in water management.
2. To study the sustainable water resources management and to plan and develop framework for future.
3. To study the modern principles of water management and planning.
4. To develop surface and subsurface water systems along with water balance equation.
5. To study the conventional and non-conventional techniques for water security.

UNIT I: Paradigm Shift in Water Management

Global and national perspectives of water crisis, water scarcity, water functions in the life-support systems, water availability and requirements for humans and nature, concepts of 'blue water', 'green water' and 'virtual water' and their roles in water management, human-landscape interventions, and salient water management issues and challenges.-landscape interventions, and salient water management issues and challenges.

UNIT II: Sustainable Water Resources Management

Concept of sustainable development, sustainability principles for water management, goals for guiding sustainable water resource management, important preconditioning in water policy approaches, framework for planning a sustainable water future.

UNIT III: Integrated Water Resources Management (IWRM) Approach

IWRM Principles:Modern principles for water management and planning, definition, components, and critique of IWRM.*IWRM Implementation:* Socio-scientific, economic, political and ecological factors affecting the implementation of IWRM principles Salient examples of river basin management, lessons from best practices in river-basin management.

UNIT IV: Surface and Subsurface Water Systems

Impacts of development activities on the water cycle, precipitation, evapotranspiration, infiltration, runoff, streamflow, erosion and sedimentation, types of aquifer systems and their hydraulic characteristics, environmental impacts on groundwater systems, estimation of groundwater recharge and discharge, assessment of groundwater potential, surface water-groundwater interaction, concept of sustainable groundwater development and management, water balance, balance of water resources and needs, minimum water table and minimum discharges.

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UNIT V: Conventional and Non-conventional Techniques for Water Security

Rainwater harvesting, groundwater mining and artificial recharge, conjunctive use of surface water and groundwater resources, long-distance water conveyance and transport, conservation of 'green water', desalination, treatment of poor-quality waters.

Course Outcomes:

After studying this course, students will be able to:

1. Assess the potential of groundwater and surface water resources.
2. Address the issues related to planning and management of water resources.
3. Know how to implement IWRM in different regions.
4. Understand the legal issues of water policy.
5. Select the method for water harvesting based on the area.

Text Books:

2. K. Subramanya, Engineering Hydrology, Tata McGraw Hill Publishers, New Delhi.
3. H.M. Raghunath, Ground Water, Wiley Eastern Publication, New Delhi.
4. Daniel P. Loucks and Eelco van Beek, Water Resources Systems. Planning and Management, UNESCO Publication.
5. Mollinga, P. et al, Integrated Water Resources Management, Water in South Asia Volume I, Sage Publications, 2006.
6. Singh, Chhatrapati Water Rights in India, Ed: Chhatrapati Singh. Water Law in India: The Indian Law Institute, New Delhi,1992.
7. Dhruva Narayana, G. Sastry, V. S. Patnaik, Watershed Management, CSWCTRI, Dehradun, ICAR Publications, 1997.

Reference Books:

1. Lal, Ruttan.Integrated Watershed Management in the Global Ecosystem. CRC Press, New York.
2. Heathcote, I. W. Integrated Watershed Management: Principles and Practice. 1988. John Wiley and Sons, Inc., New York.

Faculty

Head of Department

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New Scheme Based On AICTE Flexible Curricula
B. Tech. First Year
Branch- Common to All Disciplines

BT206	Language Lab and Seminars	0L-0T-2P	1 Credits

Course objective: This course intends to impart practical training in the use of English Language for Communicative purposes and aims to develop students' personality through language Laboratory.

Topics to be covered in the Language laboratory sessions:

1. Introducing oneself, family, social roles.
2. Public Speaking and oral skills with emphasis on conversational practice, extempore speech, JAM(Just a minute sessions), describing objects and situations, giving directions, debate, telephonic etiquette.
3. Reading Comprehension: Intensive reading skills, rapid reading, and reading aloud (Reading material to be selected by the teacher).
4. To write a book review. Standard text must be selected by the teacher.
5. Role plays: preparation and delivery topic to be selected by teacher/faculty.

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ES-401

Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

Branch- Common to All Discipline

ES401	Energy & Environmental Engineering	3L-1T-0P	4 Credits

The objective of this Course is to provide *an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application.*

Module 1: Introduction to Energy Science:

Introduction to energy systems and resources; Introduction to Energy, sustainability & the environment; Overview of energy systems, sources, transformations, efficiency, and storage; Fossil fuels (coal, oil, oil-bearing shale and sands, coal gasification) - past, present & future, Remedies & alternatives for fossil fuels - biomass, wind, solar, nuclear, wave, tidal and hydrogen; Sustainability and environmental trade-offs of different energy systems; possibilities for energy storage or regeneration (Ex. Pumped storage hydro power projects, superconductor-based energy storages, high efficiency batteries)

***Module2*: Ecosystems**

- Concept of an ecosystem; Structure and function of an ecosystem; Producers, consumers and decomposers; Energy flow in the ecosystem; Ecological succession; Food chains, food webs and ecological pyramids; Introduction, types, characteristic features, structure and function of the following ecosystem (a.)Forest ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

***Module 3*: Biodiversity and its conservation**

- Introduction – Definition: genetic, species and ecosystem diversity; Bio-geographical classification of India; Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values; Biodiversity at global, National and local levels; India as a mega-diversity nation; Hot-sports of biodiversity; Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; Endangered and endemic species of India; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

***Module 4:* Environmental Pollution**

- Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards; Solid waste Management: Causes, effects and control measures of urban and industrial wastes; Role of an individual in prevention of pollution; Pollution case studies; Disaster

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management: floods, earthquake, cyclone and landslides.

***Module 5:* Social Issues and the Environment**

- From Unsustainable to Sustainable development; Urban problems related to energy: Water conservation, rain water harvesting, watershed management; Resettlement and rehabilitation of people; its problems and concerns. Case Studies
  Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies Wasteland reclamation; Consumerism and waste products; Environment Protection Act; Air (Prevention and Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act; Issues involved in enforcement of environmental legislation; Public awareness.

Module 6: Field work

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

REFERENCE

1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.
2. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB).
3. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai,
4. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
5. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards', Vol I and II, Enviro Media (R)
6. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004). Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press.
7. Schaeffer, John (2007). Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living. Gaiam

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EC-405

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering IV-Semester

EC405 Analog Circuits

COURSE CONTENTS:

Feedback Amplifier and Oscillators: Concept of feedback and their types, Amplifier with negative feedback and its advantages. Feedback Topologies.

Oscillators: Concept of Positive feedback, Classification of Oscillators, Barkhausen criterion, Types of oscillators: RC oscillator, RC Phase Shift, Wien Bridge Oscillators. LC Oscillator: Hartley, Colpitt's, Clapp and Crystal oscillator.

Introduction to integrated circuits: Advantages and characteristic parameters of IC's, basic building components, data sheets.

Operational Amplifier: Differential amplifier and analysis. Configurations- Dual input balanced output differential amplifier, Dual input Unbalanced output differential amplifier, Single input balanced output differential amplifier, Single input Unbalanced output differential amplifier Introduction of op-amp, Block diagram, characteristics and equivalent circuits of an ideal opamp, Power supply configurations for OP-AMP.

Characteristics of op-amp: Ideal and Practical, Input offset voltage, offset current, Input bias current, Output offset voltage, thermal drift, Effect of variation in power supply voltage, common-mode rejection ratio (CMRR), Slew rate and its Effect, PSRR and gain bandwidth product, frequency limitations and compensations, transient response, analysis of TL082 datasheet.

OP-AMP applications: Inverting and non-inverting amplifier configurations, Summing amplifier, Integrators and differentiators, Instrumentation amplifier, Differential input and differential output amplifier, Voltage-series feedback amplifier, Voltage-shunt feedback amplifier, Log/ Antilog amplifier, Triangular/rectangular wave generator, phase-shift oscillators, Wein bridge oscillator, analog multiplier-MPY634, VCO, Comparator, Zero Crossing Detector. OP-AMP AS FILTERS: Characteristics of filters, Classification of filters, Magnitude and frequency response, Butterworth 1st and 2nd order Low pass, High pass and band pass filters, Chebyshev filter characteristics, Band reject filters, Notch filter; all pass filters, self-tuned filters, AGC,AVC using op-AMP.

TIMER:IC-555 Timer concept, Block pin configuration of timer, Monostable, Bistable and AstableMultivibrator using timer 555-IC, Schmitt Trigger, Voltage limiters, Clipper and

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clampers circuits, Absolute value output circuit, Peak detector, Sample and hold Circuit, Precision rectifiers, Voltage-to-current converter, Current-to-voltage converter.

Voltage Regulator: simple OP-AMP Voltage regulator, Fixed and Adjustable Voltage Regulators, Dual Power supply, Basic Switching Regulator and characteristics of standard regulator ICs such as linear regulator, Switching regulator andlow-drop out regulator. Study of LM317, TPS40200 and TPS7250

TEXT BOOKS:

1. RamakantA.Gaikward,"OP- Amp and linear Integrated circuits" Third edition 2006, Pearson.
2. B. Visvesvara Rao Linear Integrated Circuits Pearson.
3. http://www.nptelvideos.in/2012/11/analog-ics.html
4. http://nptel.ac.in/courses/117108107/

REFERENCES:

1. David A. Bell: Operational Amplifiers & Linear ICs, Oxford University Press, 2nd edition,2010.
2. D. Roy Choudhury:Linear Integrated Circuits New Age Publication.
3. B. Somanathan Nair: Linear Integrated Circuits analysis design and application Wiley India Pvt. Ltd.
4. Maheshwary and Anand: Analog Electronics, PHI.
5. S.Salivahanan,V S KanchanaBhaaskaran: Linear Integrated Circuits",second edition, McGraw Hill.
6. Gray Hurst Lewis Meyer Analysis and design of analog Integrated Circuits fifth edition Wiley India.
7. RobertF.Coughlin, Frederick,F.Driscoll: Operational Amplifiers and Linear Integrated Circuits, sixth edition, Pearson.
8. Millman and Halkias: Integrated electronics, TMH.
9. Boylestad and Nashelsky: Electronic Devices and Circuit Theory, Pearson Education.
10. Sedra and Smith: Microelectronics, Oxford Press.

List of Experiments :

Apparatus Required –Dual Channel Cathode Ray Oscilloscope (0-20 MHz), Function Generator (10MHz and above), Dual Power Supply, LM741, TL082, MPY634,TPS7250, Probes, digital multimeter.

1. To measure and compare the op-amp characteristics: offset voltages, bias currents, CMRR, Slew Rate of OPAMP LM741 and TL082.
2. To determine voltage gain and frequency response of inverting and non-inverting amplifiers using TL082.
3. To design an instrumentation amplifier and determine its voltage gain using TL082.
4. To design op-amp integrator (low pass filter) and determine its frequency response.
5. To design op-amp differentiator (high pass filter) and determine its frequency response.

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6. Design 2nd order Butterworth filter using universal active filter topology with LM741
7. To design Astable, Monostable and Bistablemultivibrator using 555 and analyse its characteristics.
8. Automatic Gain Control (AGC) Automatic Volume Control (AVC)using multiplier MPY634
9. To design a PLL using opampwith MPY634 anddetermine the free running frequency, the capture range and the lock in range of PLL
10. Design and test a Low Dropout regulator using op-amps for a given voltage regulation characteristic and compare the characteristics with TPS7250 IC.

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EC-602

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering, VI-Semester

EC- 602 Antennas and wave Propagation

Unit I

Radiation

Potential function and the Electromagnetic field, potential functions for Sinusoidal Oscillations, retarded potential, the Alternating current element (or oscillating Electric Dipole), Power radiated by a current element, Application to short antennas, Assumed current distribution, Radiation from a Quarter wave monopole or Half wave dipole, sine and cosine integral, Electromagnetic field close to an antenna,Solution of the potential equations, Far-field Approximation.

Unit II

Antenna Fundamentals

Introduction, network theorems, directional properties of dipole antennas, travelling –wave antennas and effect of feed on standing-wave antennas, two –element array, horizontal patterns in broad-cast arrays, linear arrays, multiplication of patterns ,effect of earth on vertical patterns, Binomial array, antenna gain, effective area.

Unit III

Types of antennas

log periodic antenna, loop antenna, helical antenna, biconical antenna, folded dipole antenna, Yagi-Uda antenna, lens antenna, turnstile antenna. Long wire antenna: resonant and travelling wave antennas for different wave lengths, V-antenna, rhombic antenna, beverage antenna.

Unit IV

Aperture and slot Radiation from rectangular apertures, Uniform and Tapered aperture, Horn antenna , Reflector antenna , Aperture blockage , Feeding structures , Slot antennas ,Microstrip antennas – Radiation mechanism – Application ,Numerical tool for antenna analysis

Unit V

Propagation of radio waves

Fundamentals of electromagnetic waves, effects of the environment, modes of propagation. Ground wave propagation- Introduction, plane earth reflection, space wave and surface wave, transition between surface and space wave, tilt of wave front due to ground losses. Space wave propagation- Introduction, field strength relation, effects of imperfect earth, curvature of earth and interference zone, shadowing effect of hills and buildings, absorption by atmospheric phenomena, variation of field strength with height, super refraction, scattering, tropospheric propagation, fading, path loss calculations. Sky wave propagation- Introduction, structural details of the ionosphere, wave propagation mechanism, refraction and reflection of sky waves by ionosphere, ray path, critical frequency, MUF, LUF, OF, virtual height, skip distance, relation between MUF and skip distance.

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References:

1. Jordan and Balmain: Electromagnetic Waves and Radiating System, PHI Learning.
2. Krauss: Antennas and wave propagation, TMH.
3. Balanis: Antenna Theory Analysis and Design, Wiley India Pvt. Ltd.
4. Harish and Sachidananda: Antennas and wave propagation, Oxford University Press.
5. Raju: Antennas and Wave Propagation, Pearson Education.
6. Kennedy: Electronic Communication Systems, TMH.

List of Experiments:

1. To Plot the Radiation Pattern of an Omni Directional Antenna.
2. To Plot the Radiation Pattern of a Directional Antenna.
3. To Plot the Radiation Pattern of a Parabolic Reflector Antenna.
4. To Plot the Radiation Pattern of a Log Periodic Antenna.
5. To Plot the Radiation Pattern of a Patch Antenna.
6. To Plot the Radiation Pattern of a Dipole/ Folded Dipole Antenna.
7. To Plot the Radiation Pattern of a Yagi (3-EL/4EL) Antenna.
8. To Plot the Radiation Pattern of a Monopole/ WHIP/ Collinear Antenna.
9. To Plot the Radiation Pattern of a Broad site Antenna.
10. To Plot the Radiation Pattern of a Square Loop Antenna.

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EC-802

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering, VIII-Semester

Departmental Elective EC 802 (B) Wireless Communication

Course Objective:
Understand the functioning of wireless communication system and evolution of different wireless communication systems and standards, comparison of recent technologies used for wireless communication, explanation of architecture, functioning, protocols, capabilities and application of various wireless communication networks.

Course Outcomes:

1. Explain and compare the various cellular systems and its components
2. Apply and analyze mobile communication concepts
3. Describe network and system architecture, channel concept and system Operations in TDMA and CDMA systems
4. Apply and analyze radio propagation models, coding and modulation Techniques in Wireless Communication systems.
5. Analyze improved data services in cellular communication

Unit-I
Introduction
Applications and requirements of wireless services: history, types of services, requirements for the services, economic and social aspects.
Technical challenges in wireless communications: multipath propagation, spectrum limitations, limited energy, user mobility, noise and interference-limited systems.
Propagation mechanism: free space loss, reflection and transmission, diffraction, scattering by rough surfaces, wave guiding.

Unit-II
Wireless Propagation channels
Statistical description of the wireless channel: time invariant and variant two path models, small-scale fading with and without a dominant component, Doppler spectra, temporal dependence of fading, large scale fading.
Wideband and directional channel characteristics: causes of delay dispersion, system theoretic description of wireless channels, WSSUS model, condensed parameters, ultra wideband channels, directional description.

Unit-III
Channel models: Narrowband, wideband and directional models, deterministic channel-modeling methods.
Channel sounding: Introduction, time domain measurements, frequency domain analysis, modified measurement methods, directionally resolved measurements.
Antennas: Introduction, antennas for mobile stations, antennas for base stations.

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EC- 802

Unit-IV

Transceivers and signal processing: Structure of a wireless communication link: transceiver block structure, simplified models. Modulation formats, demodulator structure, error probability in AWGN channels, error probability in flat-fading channels, error probability in delay and frequency-dispersive fading channels.

Unit V

Diversity: Introduction, microdiversity, macrodiversity and simulcast, combination of signals, error probability in fading channels with diversity reception, transmit diversity. **Equalizers:** Introduction, linear equalizers, decision feedback equalizers, maximum likelihood sequence estimation (Viterbi detector), comparison of equalizer structures, fractional spaced equalizers, blind equalizers.

References:

1. Molisch: Wireless Communications, Wiley India.
2. Taub and Schilling: Principles of Communication Systems, TMH.
3. Haykin: Mordern Wireless Communication, Pearson Education.
4. Upena Dalal: Wireless Communication, Oxford University Press.
5. Rappaport: Wireless Communication, Pearson Education.
6. Price: Wireless Communication and Networks, TMH.

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
New Scheme Based On AICTE Flexible Curricula
B.Tech. First Year
Branch- Common to All Disciplines

BT103	English for Communication	3L-0T-2P	4 Credits

COURSE CONTENTS:

Unit-I

Identifying Common errors in writing: Articles, Subject-Verb Agreement, Prepositions, Active and Passive Voice, Reported Speech: Direct and Indirect, Sentence Structure.

Unit-II

Vocabulary building and Comprehension:

Acquaintance with prefixes and suffixes from foreign languages in English to form derivatives, synonyms, antonyms, Reading comprehension.

Unit-III

Communication:

Introduction, Meaning and Significance, Process of Communication, Oral and Written Communication, 7 c's of Communication, Barriers to Communication and Ways to overcome them, Importance of Communication for Technical students, nonverbal communication.

Unit-IV

Developing Writing Skills:

Planning, Drafting and Editing, Precise Writing, Précis, Technical definition and Technical description. Report Writing: Features of writing a good Report, Structure of a Formal Report, Report of Trouble, Laboratory Report, Progress Report.

Unit-V

Business Correspondence:

Importance of Business Letters, Parts and Layout: Application, Contents of good Resume, guidelines for writing Resume, Calling/ Sending Quotation, Order, Complaint, E-mail and Tender.

Books Recommended:

1. 'Technical Communication : Principles and practice', Meenakshi Raman and Sangeeta Sharma (Oxford)
2. 'Effective Business Communication', Krizan and merrier (Cengage learning)
3. 'Communication Skill, Sanjay Kumar and pushlata, OUP2011
4. "Practical English Usage Michael Swan OUP, 1995.
5. "Exercises in spoken English Parts I-III CIEFL, Hyderabad, Oxford University Press
6. On writing well, William Zinsser, Harper Resource Book 2001.
7. Remedial English Grammar, F.T. Wood,Macmillan2007.

Course Outcomes:

The student will acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

Communicative Language Laboratory:

Course objective: The language laboratory focuses on the practice of English through audio-visual aids and Computer software. It intends to enable the students to speak English correctly with confidence and intends to help them to overcome their inhibitions and self –consciousness while speaking in English.

Topics to be covered in the Language laboratory sessions:

1. Listening Comprehension.
2. Pronunciation, Intonation, Rhythm
3. Practising everyday dialogues in English
4. Interviews.
5. Formal Presentation

Final Assessment should be based on assignment, assessment, presentation and interview of each candidate.

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w.e.f. July 2018

EC-302

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering III-Semester

EC302 ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

Unit-1 Theory of Measurement: Introduction, Characteristics of Instruments and measurement systems (Static &Dynamic) Error analysis: Sources, types and statistical analysis. Instrument Calibration: Comparison Method. DC and AC Ammeter, DC Voltmeter- Chopper type and solid-state, AC voltmeter using Rectifier. Average, RMS, Peak responding voltmeters. Multi-meter, Power meter, Bolometer and Calorimeter.

Unit-2 CRO: Different parts of CRO, Block diagram, Electrostatic focusing, Electrostatic deflection, Post deflection acceleration. Screen for CRTs, Graticules, Vertical and Horizontal deflection system, Time base circuit, Oscilloscope Probes, Applications of CRO, Special purpose CROs- Multi input, Dual trace, Dual beam, Sampling, Storage (Analog and Digital) Oscilloscope

Bridges :Maxwell's bridge (Inductance and Inductance-Capacitance), Hay's bridge, Schering bridge (High voltage and Relative permittivity), Wein bridge. Impedance measurement by Q-meter

Unit-3 (Transducer): Classification of Transducers, Strain gauge, Displacement Transducer Linear Variable Differential Transformer (LVDT) and Rotary Variable Differential Transformer (RVDT), Temperature Transducer- Resistance Temperature Detector (RTD), Thermistor, Thermocouple, Piezo-electric transducer, Optical Transducer- Photo emissive, Photo conductive, Photo voltaic, Photo-diode, Photo Transistor

Unit-4 Signal and Function Generators, Sweep Frequency Generator, Pulse and Square Wave Generator, Beat Frequency Oscillator, Digital display system and indicators, Classification of Displays, Display devices: Light Emitting diodes (LED) and Liquid Crystal Display(LCD).

Unit-5 Advantages of Digital Instrument over Analog Instrument, Digital-to-analog conversion (DAC) - Variable resistive type, R-2R ladder Type, Binary ladder, Weighted converter using Op-amp and transistor, Practical DAC. Analog-todigital Conversion (ADC) - Ramp Technique, Dual Slope Integrating Type, Integrating Type (voltage to frequency), Successive Approximations. Digital voltmeters and multi-meters, Resolution and sensitivity of digital multi-meter.

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Text/Reference Books:

1. Albert D. Helfrick, William David Cooper, "Modern electronic instrumentation and measurement techniques", TMH 2008.
2. Oliver Cage, "Electronic Measurements and Instrumentation", TMH, 2009.
3. Alan S. Morris, "Measurement and Instrumentation Principles", Elsevier (Buterworth Heinmann), 2008.
4. David A. Bell, "Electronic Instrumentation and Measurements", 2nd Ed., PHI, New Delhi 2008.
5. H.S. Kalsi, "Electronics Instrumentation", TMH Ed. 2004
6. A.K.Sawhney, "A Course in Electrical and Electronic Measurements and Instrumentation", Dhanpat Rai.
7. MMS Anand, "Electronic Instruments & Instrumentation Technology", PHI Pvt. Ltd., New Delhi Ed. 2005

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Ec-303

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering III-Semester

EC303 DIGITAL SYSTEM DESIGN

Unit-1 Number Systems: Decimal, Binary, Octal and Hexadecimal systems, conversion from one base to another, Codes-BCD, Excess- 3, Gray Reflected ASCII, EBCDIC.

Logic gates and binary operations- AND, OR, NOT, NAND, NOR, Exclusive–OR and Exclusive– NOR Implementations of Logic Functions using gates, NAND–NOR implementations – Multi level gate implementations- Multi output gate implementations.

Boolean postulates and laws – De-Morgan's Theorem - Principle of Duality, Boolean function, Canonical and standard forms,Minimization of Boolean functions, Minterm,Maxterm, Sum of Products (SOP), Product of Sums (POS),Karnaugh map Minimization, Don't care conditions, Quine-McCluskey method of minimization.

Unit-2 Combinational logic circuits :Half adder – Full Adder – Half subtractor - Full subtractor– Parallelbinary adder, parallel binary Subtractor – Fast Adder - Carry Look Ahead adder– Serial. Adder/Subtractor - BCD adder – Binary Multiplier – Binary Divider - Multiplexer/De-multiplexer – decoder - encoder – parity checker – parity generators – codeconverters - Magnitude Comparator.

Unit-3. Sequential Logic Design: Building blocks like S-R, JK and Master-Slave JK FF, Edge triggered FF, Finite state machines, Design of synchronous FSM, Algorithmic State Machines charts. Designing synchronous circuits like Pulse train generator, Pseudo Random Binary Sequence generator, Clock generation

Unit-4 Registers and Counters: Asynchronous Ripple or serial counter, Asynchronous Up/Down counter - Synchronous counters – Synchronous Up/Downcounters – Programmable counters – Design of Synchronous counters: state diagram-State table –State minimization –State assignment - Excitation table and maps-Circuit. Implementation - Modulo–n counter, Registers – shift registers - Universal shift registers, Shift register counters – Ring counter – Shift counters - Sequence generators.

Unit-5 Logic Families and Semiconductor Memories: TTL NAND gate, Specifications, Noise margin, Propagation delay, fan-in, fan-out, Tristate TTL, ECL, CMOS families and their interfacing, Memory elements, Conceptof Programmable logic devices like FPGA, Logic implementation using Programmable Devices.

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Text/Reference Books:

1. Malvino & Leach, "Digital Principles and Applications", TMH.
2. M. Morris Mano, "Digital Logic Design", PHI
3. R.P. Jain, "Modern Digital Design", TMH.
4. S. Salivahanan & S. Arivazhagan, "Digital Circuits and Design", Vikas Publishing.
5. D. Roy Chaudhuri, Digital Circuits, "An Introduction Part -1 & 2", Eureka Publisher.
6. Ronald J Tocci , "Digital Systems, Principles and Applications", PHI.
7. Taub & Schilling, "Digital Integrated Electronics", TMH.

DIGITAL SYSTEM DESIGN LAB

1. Study of different basic digital logic gates and verification of their Truth Table.
2. Study and verification of the law of Boolean Algebra and De-Morgan's Theorem.
3. Construction and verification of various combinational circuits such as Half Adder, Full Adder, Half & Full Subtractor.
4. Study of Multiplexer, De-multiplexer.
5. Study of Different Code Converters, Encoder, Decoder.
6. Construction and verification of various types of Flip-Flops using gates and IC's.
7. Construction and Verification of different Shift Registers.
8. Construction and verification of different types of Counters.
9. Study of important TTL technologies. Verifications of important TTL Circuit Parameters.

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EC-701

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Electronics & Communication Engineering VII-Semester

EC- 701 VLSI Design

Course Objective:

- To understand the fabrication process of CMOS technology.
- To teach fundamentals of VLSI circuit design and implementation using circuit simulators andlayout editors.
- To study various problems due to VLSI technology advancement.
- To study digital circuits using various logic methods and their limitations.
- To highlight the circuit design issues in the context of VLSI technology.

Course Contents:

UNIT I

Practical Consideration and Technology in VLSI Design

Introduction, Size and complexity of Integrated Circuits, The Microelectronics Field, IC ProductionProcess, Processing Steps, Packaging and Testing, MOS Processes, NMOS Process, CMOS Process,Bipolar Technology, Hybrid Technology, Design Rules and Process Parameters.

UNIT II

Device Modeling

Dc Models, Small Signal Models, MOS Models, MOSFET Models in High Frequency and small signal,Short channel devices, Sub threshold Operations, Modeling Noise Sources in MOSFET's, Diode Models,Bipolar Models, Passive component Models.

UNIT III

Circuit Simulation

Introduction, Circuit Simulation Using Spice, MOSFET Model, Level 1 Large signal model, Level 2Large Signal Model, High Frequency Model, Noise Model of MOSFET, Large signal Diode Current,High Frequency BJT Model, BJT Noise Model, temperature Dependence of BJT.

UNIT IV

Structured Digital Circuits and Systems

Random Logic and Structured Logic Forms, Register Storage Circuits, Quasi Static Register Cells, AStatic Register Cell, Micro coded Controllers, Microprocessor Design, Systolic Arrays, Bit-SerialProcessing Elements, Algotronix.

UNIT V

CMOS Processing Technology

Basic CMOS Technology, A Basic n-well CMOS Process, Twin Tub Processes, CMOS ProcessEnhancement, Interconnects and Circuit Elements, Layout Design Rules, Latch up Physical Origin, Latchup Triggering, Latch up Prevention, Internal Latch up Prevention Techniques.

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

- Demonstrate a clear understanding of CMOS fabrication flow and technology scaling.
- Design MOSFET based logic circuit
- Draw layout of a given logic circuit
- Demonstrate an understanding of working principle of operation of different types of memories
- Demonstrate an understanding of working principles of clocking, power reduction and Distribution

References:

1. Geiger, Allen andStrader: VLSI Design Techniques for Analog and Digital Circuits, TMH.
2. Sorab Gandhi: VLSI Fabrication Principles, Wiley India.
3. Weste and Eshraghian:Principles of CMOS VLSI design, Addison-Wesley
4. Weste, Harris and Banerjee: CMOS VLSI Design, Pearson-Education.
5. Pucknell and Eshraghian: Basic VLSI Design, PHI Learning.
6. Botkar: Integrated Circuits, Khanna Publishers.
7. Sze:VLSI Technology, TMH.

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EC - 705

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Electronics & Communication Engineering VII-Semester

EC- 705 IOT LAB

List of Experiments

LAB INDEX Design, Developed and implement following using Arduino, Raspberry Pi compiler and Python language in Linux/Windows environment.

1. Study and Install IDE of Arduino and different types of Arduino.
2. Write program using Arduino IDE for Blink LED.
3. Write Program for RGB LED using Arduino.
4. Study the Temperature sensor and Write Program foe monitor temperature using Arduino.
5. Study and Implement RFID, NFC using Arduino.
6. Study and Configure Raspberry Pi.
7. WAP for LED blink using Raspberry Pi.
8. Study and Implement Zigbee Protocol using Arduino / Raspberry Pi.
9. Study and implement MQTT protocol using Arduino.
10. Study and implement CoAP protocol using Arduino.

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Electronics & Communication Engineering V-Semester

EC502 DIGITAL COMMUNICATION

Unit I

Sampling theorem for low pass and band pass signals, Ideal sampling, Natural sampling, Flat top sampling, crosstalk, aliasing, time division multiplexing, PAM, PWM and PPM their generation and detection.

Unit II

Pulse code modulation, Quantization, quantization noise, companding, Inter symbol interference, Eye pattern, Delta and adaptive modulation, Encoding techniques: On-Off signaling, Polar signaling, RZ signaling, Bipolar signaling, AMI, Manchester code, Differential encoding their advantage and disadvantages.

Unit III

Band pass data transmission: ASK, Binary phase shift keying (BPSK), QPSK, DPSK, coherent and non coherent BFSK, minimum shift keying, QAM, Concept of M-ary PSK and M-ary FSK, Spectral properties of QPSK and MSK.

UNIT IV

Matched filter and correlator detector, Gram Schmidt orthogonalization procedure and concept of signal space for the computation of probability of error, calculation of error probability for BPSK, QPSK, QAM and coherent BFSK, comparison of different modulation techniques.

Unit V

Concept of information theory, entropy, information rate, channel capacity, Shannon's theorem, Shannon Hartley theorem , BW and signal to noise ratio trade off, sources encoding, extension of zero memory source, Error correcting codes: linear block codes and cyclic codes: encoder and decoder circuits, burst error correcting codes, concept of convolution codes.

Reference Books:

1. Communication Systems –Simon Haykins, Wiley
2. Principle of Communication Systems-Taub and Schilling, Tata McGraw-Hill
3. Communication Systems-Singh and Sapre, Tata McGraw-Hill

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Department of Computer Science and Engineering

Program	Semester		Professional Ethics	Gender	Human Values	Environment Sustainaibility
B.Tech-CSE	ODD Semester	3rd				ES301:Energy & Environmental Engineering
		5th	CS508:Minor Project- I CS- 503 (C) :Cyber Security		CS508:Minor Project- I	
		7th	CS706:Major Project-I CS701:Software Architecture		CS702 (C) Wireless & Mobile Computing	CS702 (C) Wireless & Mobile Computing
	Even Semester	4th	CS403-Software Engineering		CS403-Software Engineering	
		6th	CS608:Minor Project II CS604 (A) : Knowledge Management	CS604 (B) :Project Management	CS608:Minor Project II CS604 (B) :Project Management	
		8th	CS805:Major Project-II CS803 (D) Managing Innovation and Entrepreneurship		803 (D) Managing Innovation and Entrepreneurship#	CS801: Internet of Things

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Computer Science and Engineering, VIII-Semester

CS801 - Internet of Things

Course Objective:
The objective of this course is to provide an understanding of the technologies and the standards relating to the Internet of Things and to develop skills on IoT technical planning.

Unit I IoT definition, Characteristics, IoT conceptual and architectural framework, Components of IoT ecosystems, Physical and logical design of IoT, IoT enablers, Modern day IoT applications, M2M communications, IoT vs M2M, IoT vs WoT, IoT reference architecture, IoT Network configurations, IoT LAN, IoT WAN, IoT Node, IoT Gateway, IoT Proxy, Review of Basic Microcontrollers and interfacing.

Unit II Define Sensor, Basic components and challenges of a sensor node, Sensor features, Sensor resolution; Sensor classes: Analog, Digital, Scalar, Vector Sensors; Sensor Types, bias, drift, Hysteresis error, quantization error; Actuator; Actuator types: Hydraulic, Pneumatic, electrical, thermal/magnetic, mechanical actuators, soft actuators

Unit III Basics of IoT Networking, IoT Components, Functional components of IoT, IoT service oriented architecture, IoT challenges, 6LowPAN, IEEE 802.15.4, ZigBee and its types, RFID Features, RFID working principle and applications, NFC (Near Field communication), Bluetooth, Wireless Sensor Networks and its Applications

Unit IV MQTT, MQTT methods and components, MQTT communication, topics and applications, SMQTT, CoAP, CoAP message types, CoAP Request-Response model, XMPP, AMQP features and components, AMQP frame types

Unit V IoT Platforms, Arduino, Raspberry Pi Board, Other IoT Platforms; Data Analytics for IoT, Cloud for IoT, Cloud storage models & communication APIs, Attacks in IoT system, vulnerability analysis in IoT, IoT case studies: Smart Home, Smart framing etc.

References:

1. Vijay Madisetti, Arshdeep Bahga, "Internet of Things, A Hands on Approach", University Press
2. Dr. SRN Reddy, Rachit Thukral and Manasi Mishra, "Introduction to Internet of Things: A practical Approach", ETI Labs
3. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
4. Jeeva Jose, "Internet of Things", Khanna Publishing House, Delhi
5. Adrian McEwen, "Designing the Internet of Things", Wiley
6. Raj Kamal, "Internet of Things: Architecture and Design", McGraw Hill
7. Cuno Pfister, "Getting Started with the Internet of Things", O Reilly Media

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Computer Science and Engineering, VIII-Semester

Open Elective – CS803 (D) Managing Innovation and Entrepreneurship#

COURSE OBJECTIVE

The aim of the course is to motivate students to innovate in business. In the first place, to achieve this goal, students will be introduced to the basic terminology, typology of innovations and historical context for better comprehension. Also issues of innovation management will be introduced. Students will become familiar with the impact of innovation, innovative processes and aspects that affect it, including applicable methods and innovation management techniques.

Course contents:

UNIT-1

Innovation, the basic definition and classification: The relationship of innovation and entrepreneurship, creation of competitive advantage based on innovation. Innovative models, Product, process, organizational and marketing innovation and their role in business development.

UNIT-II

Sources of innovation (push, pull, analogies), transfer of technology. Creative methods and approaches used in innovation management. Approaches to management of the innovation process (agile management, Six Thinking Hats, NUF test).

UNIT-III

Project approach to innovation management, method Stage Gate, its essence, adaptation of access to selected business models. In-house business development of the innovation process in the company. Open Innovation as a modern concept, the limits of this method and its benefits for business development.

UNIT-IV

Innovations aimed at humans, role of co-creation in the innovation process. The strategy of innovation process, types and selection of appropriate strategies.

UNIT-V

Measurement and evaluation of the benefits of innovation for business (financial and non-financial metrics, their combination and choice). Barriers to innovation in business, innovation failure and its causes, post-audits of innovative projects. Organization and facilitation of an innovation workshop.

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Computer Science and Engineering, VII-Semester

CS701 Software Architectures

Pre-Requisite: Software Engineering

Course Outcomes:

After completing the course student should be able to:

1. Describe the Fundamentals of software architecture, qualities and terminologies.
2. Understand the fundamental principles and guidelines for software architecture design, architectural styles, patterns, and frameworks.
3. Use implementation techniques of Software architecture for effective software development.
4. Apply core values and principles of software architectures for enterprise application development.

Course Contents:

Unit 1. Overview of Software development methodology and software quality model, different models of software development and their issues. Introduction to software architecture, evolution of software architecture, software components and connectors, common software architecture frameworks, Architecture business cycle – architectural patterns – reference model.

Unit 2. Software architecture models: structural models, framework models, dynamic models, process models. Architectures styles: dataflow architecture, pipes and filters architecture, call-and return architecture, data-centered architecture, layered architecture, agent based architecture, Micro-services architecture, Reactive Architecture, Representational state transfer architecture etc.

Unit 3. Software architecture implementation technologies: Software Architecture Description Languages (ADLs), Struts, Hibernate, Node JS, Angular JS, J2EE – JSP, Servlets, EJBs; middleware: JDBC, JNDI, JMS, RMI and CORBA etc. Role of UML in software architecture.

Unit 4. Software Architecture analysis and design: requirements for architecture and the life-cycle view of architecture design and analysis methods, architecture-based economic analysis: Cost Benefit Analysis Method (CBAM), Architecture Tradeoff Analysis Method (ATAM). Active Reviews for Intermediate Design (ARID), Attribute Driven Design method (ADD), architecture reuse, Domain –specific Software architecture.

Unit 5. Software Architecture documentation: principles of sound documentation, refinement, context diagrams, variability, software interfaces. Documenting the behavior of software elements and software systems, documentation package using a seven-part template.

Text Books

1. Bass, L., P. Clements, and R. Kazman, "Software Architecture in Practice", Second Edition, Prentice-Hall.

2. Jim Keogh, "J2EE – Complete Reference", Tata McGraw Hill.

3. Dikel, David, D. Kane, and J. Wilson, "Software Architecture: Organizational Principles and Practices", Prentice-Hall.

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Computer Science and Engineering, VII-Semester

Departmental Elective – CS702 (C) Wireless & Mobile Computing

COURSE OUTCOMES:

Students should be able to:

CO1: Design and create traditional networks

CO2: Understand the different issues in MAC and routing issues in multi hop wireless and ad-hoc networks and existing solutions for the same.

CO3: Evaluate the transport layer issues in wireless networks due to error's and mobility of nodes and understand existing solutions for the same.

CO4: Explain the architecture of GSM.

CO5: Discuss the services, emerging issues and future trends in M-Commerce.

Unit 1: Review of traditional networks: Review of LAN, MAN, WAN, Intranet, Internet, and interconnectivity devices: bridges, Routers etc. Review of TCP/IP Protocol Architecture: ARP/RARP, IP addressing, IP Datagram format and its Delivery, Routing table format, ICMP Messages, Subnetting, Supernetting and CIDR, DNS. NAT: Private addressing and NAT, SNAT, DNAT, NAT and firewalls, VLANS: Concepts, Comparison with Real LANS, Type of VLAN, Tagging, IPV6: address structure, address space and header.

Unit 2: Study of traditional routing and transport: Routing Protocols: BGP- Concept of hidden network and autonomous system, An Exterior gateway protocol, Different messages of BGP. Interior Gateway protocol: RIP, OSPF. Multiplexing and ports, TCP: Segment format, Sockets, Synchronization, Three Way Hand Shaking, Variable window size and Flow control, Timeout and Retransmission algorithms, Connection Control, Silly window Syndrome. Example of TCP: Taho, Reno, Sack etc. UDP: Message Encapsulation, Format and Pseudo header.

Unit 3: Wireless LAN: Transmission Medium For WLANs, MAC problems, Hidden and Exposed terminals, Near and Far terminals, Infrastructure and Ad hoc Networks, IEEE 802.11- System arch, Protocol arch, Physical layer, Concept of spread spectrum, MAC and its management, Power management, Security. Mobile IP: unsuitability of Traditional IP; Goals, Terminology, Agent advertisement and discovery, Registration, Tunneling techniques. Ad hoc network routing: Ad hoc Network routing v/s Traditional IP routing, types of routing protocols, Examples: OADV, DSDV, DSR, ZRP etc.

Unit 4: Mobile transport layer: unsuitability of Traditional TCP; I-TCP, S-TCP, M-TCP. Wireless Cellular networks: Cellular system, Cellular networks v/s WLAN, GSM – Services, system architecture, Localization and calling, handover and Roaming.

Unit 5: Mobile Device Operating Systems: Special Constraints & Requirements, Commercial Mobile Operating Systems. Software Development Kit: iOS, Android etc.MCommerce : Structure , Pros &Cons, Mobile Payment System ,Security Issues

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TEXT BOOKS RECOMMENDED:

1. Comer, "Internetworking with TCP/ IP Vol-I", 5th edition, Addison Wesley, 2006.
2. Jochen Schiller "Mobile communication", 2nd edition, Pearson education, 2008

REFERENCE:

1. W. Richard Stevens, "TCP/IP Illustrated Vol-I", Addison-Wesley.
2. C.K.Toh, "AdHoc Mobile Wireless Networks", First Edition, Pearson Education.
3. Uwe Hansmann, LotharMerk, Martin S. Nicklons and Thomas Stober, "Principles of Mobile Computing", Springer
4. Android Developers : http://developer.android.com/index.html
5. Apple Developer : https://developer.apple.com/
6. Windows Phone Dev Center : http://developer.windowsphone.com/
7. BlackBerry Developer : http://developer.blackberry.com/.

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Computer Science and Engineering, VI-Semester

Open Elective - CS604 (B) Project Management

Course Learning Objectives:

Understand the different activities in software project development i.e, planning, design and management.

Course content:

1. Conventional Software Management.

Evolution of software economics. Improving software economics: reducing product size, software processes, team effectiveness, automation through software environments. Principles of modern software management.

2. Software Management Process

Framework,: Life cycle phases- inception, elaboration, construction and training phase. Artifacts of the process- the artifact sets, management artifacts, engineering artifacts, pragmatics artifacts. Model based software architectures. Workflows of the process. Checkpoints of the process.

3. Software Management Disciplines

Iterative process planning. Project organisations and responsibilities. Process automation. Project control And process instrumentation- core metrics, management indicators, life cycle expections. Process discriminants.

Books

1. Software Project management, Walker Royce, Addison Wesley, 1998.
2. Project management 2/e ,Maylor.
3. Managing the Software Process, Humphrey.
4. Managing global software Projects, Ramesh, TMH,2001.

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Course Outcomes:

1. Understanding the evolution and improvement of software economics according to the basic parameters and transition to the modern software management.

2. Learning the objectives, activities and evaluation criteria of the various phases of the life cycle of software management process.

3. Gaining knowledge about the various artifacts, workflows and checkpoints of the software management process and exploring the design concept using model based architecture from technical and management perspective.

4. Develop an understanding of project planning, organization, responsibilities, automation and control of the processes to achieve the desirable results.

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Computer Science and Engineering, VI-Semester

Open Elective - CS604 (A) Knowledge Management

OBJECTIVES:The student should be made to:

- Learn the Evolution of Knowledge management.
- Be familiar with tools.
- Be exposed to Applications.
- Be familiar with some case studies.

UNIT I : INTRODUCTION

Introduction: An Introduction to Knowledge Management – The foundations of knowledge management- including cultural issues- technology applications organizational concepts and processes- management aspects- and decision support systems. The Evolution of Knowledge management: From Information Management to Knowledge Management – Key Challenges Facing the Evolution of Knowledge Management – Ethics for Knowledge Management.

UNIT II : CREATING THE CULTURE OF LEARNING AND KNOWLEDGE SHARING

Organization and Knowledge Management – Building the Learning Organization. Knowledge Markets: Cooperation among Distributed Technical Specialists – Tacit Knowledge and Quality Assurance.

UNIT III : KNOWLEDGE MANAGEMENT-THE TOOLS

Telecommunications and Networks in Knowledge Management – Internet Search Engines and Knowledge Management – Information Technology in Support of Knowledge Management – Knowledge Management and Vocabulary Control – Information Mapping in Information Retrieval – Information Coding in the Internet Environment – Repackaging Information.

UNIT IV : KNOWLEDGE MANAGEMENT-APPLICATION

Components of a Knowledge Strategy – Case Studies (From Library to Knowledge Center, Knowledge Management in the Health Sciences, Knowledge Management in Developing Countries).

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UNIT V : FUTURE TRENDS AND CASE STUDIES

Advanced topics and case studies in knowledge management – Development of a knowledge management map/plan that is integrated with an organization's strategic and business plan – A case study on Corporate Memories for supporting various aspects in the process life -cycles of an organization.

TEXT BOOK:

- Srikantaiah, T.K., Koenig, M., "Knowledge Management for the Information Professional" Information Today, Inc., 2000.

REFERENCE:

- Nonaka, I., Takeuchi, H., "The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation", Oxford University Press, 1995.

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Computer Science and Engineering, V-Semester

Departmental Elective CS- 503 (C)

UNIT 1
Introduction of Cyber Crime, Challenges of cyber crime, Classifications of Cybercrimes: E-Mail Spoofing, Spamming, Internet Time Theft, Salami attack/Salami Technique,

UNIT 2
Web jacking, Online Frauds, Software Piracy, Computer Network Intrusions, Password Sniffing, Identity Theft, cyber terrorism, Virtual Crime, Perception of cyber criminals: hackers, insurgents and extremist group etc. Web servers were hacking, session hijacking.

UNIT 3
Cyber Crime and Criminal justice: Concept of Cyber Crime and the IT Act, 2000, Hacking, Teenage Web Vandals, Cyber Fraud and Cheating, Defamation, Harassment and E-mail Abuse, Other IT Act Offences, Monetary Penalties, jurisdiction and Cyber Crimes, Nature of Criminality, Strategies to tackle Cyber Crime and Trends.

UNIT 4
The Indian Evidence Act of 1872 v. Information Technology Act, 2000: Status of Electronic Records as Evidence, Proof and Management of Electronic Records; Relevancy, Admissibility and Probative Value of E-Evidence, Proving Digital Signatures, Proof of Electronic Agreements, Proving Electronic Messages.

UNIT 5
Tools and Methods in Cybercrime: Proxy Servers and Anonymizers, Password Cracking, Key loggers and Spyware, virus and worms, Trojan Horses, Backdoors, DoS and DDoS Attacks , Buffer and Overflow, Attack on Wireless Networks, Phishing : Method of Phishing, Phishing Techniques.

Suggested Books:

1. Principles of Cyber crime, Jonathan Clough Cambridge University Press
2. John R. Vacca, Computer Forensics:Computer Crime Scene Investigation, 2nd Edition, Charles River Media, 2005
3. Cyber Law Simplified, VivekSood, Pub: TMH.
4. Cyber Security by Nina Godbole, SunitBelapure Pub: Wiley-India
5. Information Warfare: Corporate attack and defense in digital world, William Hutchinson, Mathew Warren, Elsevier.
6. Cyber Laws and IT Protection, Harish Chander, Pub:PHI.

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Computer Science and Engineering, IV-Semester

CS403 Software Engineering

RATIONALE:
The purpose of this subject is to cover the underlying concepts and techniques used in Software Engineering & Project Management. Some of these techniques can be used in software design & its implementation.

PREREQUISITE:-
The students should have at least one year of experience in programming a high-level language and databases. In addition, a familiarity with software development life cycle will be useful in studying this subject.

Unit I: The Software Product and Software Process
Software Product and Process Characteristics, Software Process Models: LinearSequential Model, Prototyping Model, RAD Model, Evolutionary Process Models likeIncremental Model, Spiral Model, Component Assembly Model, RUP and Agileprocesses. Software Process customization and improvement, CMM, Product andProcess Metrics

Unit II: Requirement Elicitation, Analysis, and Specification
Functional and Non-functional requirements, Requirement Sources and Elicitation Techniques, Analysis Modeling for Function-oriented and Object-oriented software development, Use case Modeling, System and Software Requirement Specifications, Requirement Validation, Traceability

Unit III: Software Design
The Software Design Process, Design Concepts and Principles, Software Modeling andUML, Architectural Design, Architectural Views and Styles, User Interface Design, Function-oriented Design, SA/SD Component Based Design, Design Metrics.

Unit IV: Software Analysis and Testing
Software Static and Dynamic analysis, Code inspections, Software Testing, Fundamentals, Software Test Process, Testing Levels, Test Criteria, Test Case Design, TestOracles, Test Techniques, Black-Box Testing, White-Box Unit Testing and Unit, Testing Frameworks, Integration Testing, System Testing and other Specialized, Testing, Test Plan, Test Metrics, Testing Tools. , Introduction to Object-oriented analysis, design and comparison with structured Software Engg.

Unit V: Software Maintenance & Software Project Measurement
Need and Types of Maintenance, Software Configuration Management (SCM), Software Change Management, Version Control, Change control and Reporting, Program Comprehension Techniques, Re-engineering, Reverse Engineering, Tool Support. Project Management Concepts, Feasibility Analysis, Project and Process Planning, Resources

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Allocations, Software efforts, Schedule, and Cost estimations, Project Scheduling and Tracking, Risk Assessment and Mitigation, Software Quality Assurance(SQA). Project Plan, Project Metrics.

Practical and Lab work

Lab work should include a running case study problem for which different deliverable sat the end of each phase of a software development life cycle are to be developed. Thiswill include modeling the requirements, architecture and detailed design. Subsequentlythe design models will be coded and tested. For modeling, tools like Rational Roseproducts. For coding and testing, IDE like Eclipse, Net Beans, and Visual Studio can be used.

References

1. Pankaj Jalote ,"An Integrated Approach to Software Engineering", Narosa Pub, 2005
2. Rajib Mall, "Fundamentals of Software Engineering" Second Edition, PHI Learning
3. R S. Pressman ,"Software Engineering: A Practitioner's Approach", Sixth edition2006, McGraw-Hill.
4. Sommerville,"Software Enginerring",Pearson Education.
5. Richard H.Thayer,"Software Enginerring & Project Managements", WileyIndia
6. Waman S.Jawadekar,"Software Enginerring", TMH
7. Bob Hughes, M.Cotterell, Rajib Mall " Software Project Management", McGrawHill

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Branch- Common to All Discipline

ES301	Energy & Environmental Engineering	3L-1T-0P	4 Credits

The objective of this Course is to provide *an introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application.*

Module 1: Introduction to Energy Science:

Introduction to energy systems and resources; Introduction to Energy, sustainability & the environment; Overview of energy systems, sources, transformations, efficiency, and storage; Fossil fuels (coal, oil, oil-bearing shale and sands, coal gasification) - past, present & future, Remedies & alternatives for fossil fuels - biomass, wind, solar, nuclear, wave, tidal and hydrogen; Sustainability and environmental trade-offs of different energy systems; possibilities for energy storage or regeneration (Ex. Pumped storage hydro power projects, superconductor-based energy storages, high efficiency batteries)

***Module2*: Ecosystems**

- Concept of an ecosystem; Structure and function of an ecosystem; Producers, consumers and decomposers; Energy flow in the ecosystem; Ecological succession; Food chains, food webs and ecological pyramids; Introduction, types, characteristic features, structure and function of the following ecosystem (a.)Forest ecosystem (b) Grassland ecosystem (c) Desert ecosystem (d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

***Module 3*: Biodiversity and its conservation**

- Introduction – Definition: genetic, species and ecosystem diversity; Bio-geographical classification of India; Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values; Biodiversity at global, National and local levels; India as a mega-diversity nation; Hot-sports of biodiversity; Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; Endangered and endemic species of India; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

***Module 4:* Environmental Pollution**

- Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards; Solid waste Management: Causes, effects and control measures of urban and industrial wastes; Role of an individual in prevention of pollution; Pollution case studies; Disaster management: floods, earthquake, cyclone and landslides.

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Module 5: **Social Issues and the Environment**

- From Unsustainable to Sustainable development; Urban problems related to energy; Water conservation, rain water harvesting, watershed management; Resettlement and rehabilitation of people; its problems and concerns. Case Studies
Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies Wasteland reclamation; Consumerism and waste products; Environment Protection Act; Air (Prevention and Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act; Issues involved in enforcement of environmental legislation; Public awareness.

Module 6: Field work

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

REFERENCE

1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.
2. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB).
3. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai,
4. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
5. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards', Vol I and II, Enviro Media (R)
6. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004), Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press.
7. Schaeffer, John (2007), Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living, Gaiam

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New Scheme Based On AICTE Flexible Curricula

Information Technology, VII-Semester

Departmental Elective IT 702(B) Cloud Computing

Course Objective:
The objective of this course is to provide students with the comprehensive and in-depth knowledge of Cloud Computing concepts, technologies, architecture and applications.

UNIT I
Introduction of Grid and Cloud computing, characteristics, components, business and IT perspective, cloud services requirements, cloud models, Security in public model, public verses private clouds, Cloud computing platforms: Amazon EC2,Platform as Service: Google App Engine, Microsoft Azure, Utility Computing, Elastic Computing.

UNIT II
Cloud services- SAAS, PAAS, IAAS, cloud design and implementation using SOA, conceptual cloud model, cloud stack, computing on demand, Information life cycle management, cloud analytics, information security, virtual desktop infrastructure, storage cloud.

UNIT III
Virtualization technology: Definition, benefits, sensor virtualization, HVM, study of hypervisor, logical partitioning- LPAR, Storage virtualization, SAN, NAS, cloud server virtualization, virtualized data center.

UNIT IV
Cloud security fundamentals, Vulnerability assessment tool for cloud, Privacy and Security in cloud, Cloud computing security architecture: Architectural Considerations- General Issues, Trusted Cloud computing, Secure Execution Environments and Communications, Micro- architectures; Identity Management and Access control-Identity management, Access control, Autonomic Security, Cloud computing security challenges: Virtualization security management- virtual threats, VM Security Recommendations, VM-Specific Security techniques, Secure Execution Environments and Communications in cloud.

UNIT V
SOA and cloud, SOA and IAAS, cloud infrastructure benchmarks, OLAP, business intelligence, e-Business, ISV, Cloud performance monitoring commands, issues in cloud computing. QOS issues in cloud, mobile cloud computing, Inter cloud issues, Sky computing, Cloud Computing Platform, Xen Cloud Platform, Eucalyptus, OpenNebula, Nimbus, TPlatform, Apache Virtual Computing Lab (VCL), Anomaly Elastic Computing Platform.

References:

1. Dr.Kumar Saurabh, "Cloud Computing", Wiley India.
2. Ronald Krutz and Russell Dean Vines, "Cloud Security", Wiley-India.
3. Judith Hurwitz, R.Bloor, M.Kanfman, F.Halper, "Computing for Dummies", Wiley India Edition.
4. Anthony T.Velte Toby J.Velte, "Cloud Computing – A Practical Approach", TMH.
5. Barrie Sosinsky, 'Cloud Computing Bible", Wiley India.

Course Outcomes:
After the completion of this course, the students will be able to:

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1. Explain the core concepts of the cloud computing paradigm
2. Demonstrate knowledge of virtualization
3. Explain the core issues of cloud computing such as security, privacy, and interoperability.
4. Choose the appropriate technologies, algorithms, and approaches for the related issues.
5. Identify problems, and explain, analyze, and evaluate various cloud computing solutions.

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Information Technology, VII-Semester

Open Elective IT 703 (B) Internet of Things

Course Objective:
The objective of this course is to provide an understanding of the technologies and the standards relating to the Internet of Things and to develop skills on IoT technical planning.

Unit I IoT definition, Characteristics, IoT conceptual and architectural framework, Physical and logical design of IoT, IoT enablers, Modern day IoT applications, M2M communications, IoT vs M2M, IoT vs WoT, IoT reference architecture, IoT Network configurations, IoT LAN, IoT WAN, IoT Node, IoT Gateway, IoT Proxy, IPv4 vs IPV6

Unit II Sensor, Basic components and challenges of a sensor node, Sensor features, Sensor resolution; Sensor classes: Analog, Digital, Scalar, Vector Sensors; Sensor Types, bias, drift, Hysteresis error, quantization error; Actuator; Actuator types: Hydraulic, Pneumatic, electrical, thermal/magnetic, mechanical actuators, soft actuators

Unit III Basics of IoT Networking, IoT Components, Functional components of IoT, IoT service oriented architecture, IoT challenges, 6LowPAN, IEEE 802.15.4, ZigBee and its types, RFID Features, RFID working principle and applications, NFC (Near Field communication), Bluetooth, Wireless Sensor Networks and its Applications

Unit IV MQTT, MQTT methods and components, MQTT communication, topics and applications, SMQTT, CoAP, CoAP message types, CoAP Request-Response model, XMPP, AMQP features and components, AMQP frame types

Unit V IoT Platforms, Arduino, Raspberry Pi Board, Other IoT Platforms; Data Analytics for IoT, Cloud for IoT, Cloud storage models & communication APIs, IoT case studies

References:

1. Vijay Madisetti, Arshdeep Bahga, "Internet of Things, A Hands on Approach", University Press
2. Dr. SRN Reddy, Rachit Thukral and Manasi Mishra, "Introduction to Internet of Things: A practical Approach", ETI Labs
3. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
4. Jeeva Jose, "Internet of Things", Khanna Publishing House, Delhi
5. Adrian McEwen, "Designing the Internet of Things", Wiley
6. Raj Kamal, "Internet of Things: Architecture and Design", McGraw Hill
7. Cuno Pfister, "Getting Started with the Internet of Things", O Reilly Media

Course Outcomes:
After the completion of this course, the students will be able to:
1. Understand Internet of Things and its hardware and software components

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2. Interface I/O devices, sensors & communication modules
3. Analyze data from various sources in real-time and take necessary actions in an intelligent fashion
4. Remotely monitor data and control devices
5. Develop real life IoT based projects

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Information Technology, VI-Semester

IT 602 Wireless and Mobile Computing

Course Objectives:

1. To provide an overview of Wireless Communication networks area and its applications in communication engineering.
2. To introduce various standards of mobile communication.
3. To explain the various terminology, principles, devices, schemes, concepts used in Wireless Communication Networks.
4. To introduce the concepts of Adhoc networks and Sensor networks and their issues
5. To introduce various security threats in wireless networks and the techniques for the prevention and detection of threats

Unit I:

Antenna , radiation pattern, antenna types, antenna gain, propagation modes, types of fading. Model for wireless digital communication, multiple access technique-SDMA, TDMA, FDMA, CDMA, DAMA, PRMA, MAC/CA, Cellular network organization, operations of cellular system, mobile radio propagation effects, handoff, power control, sectorization, traffic engineering, Infinite sources, lost calls cleared, grade of service, poison arrival process

Unit II:

GSM- Services, system architecture, radio interface, logical channels, protocols, localization and calling, handover, security, HSCSD, GPRS-architecture, Interfaces, Channels, mobility management DECT, TETRA, UMTS.

Unit III:

IEEE 802.11: LAN-architecture, 802.11 a, b and g, protocol architecture, physical layer, MAC layer , MAC management, HIPERLAN-protocol architecture, physical layer, access control sub layer, MAC sub layer. Bluetooth-user scenarios- physical layer, MAC layer.

Unit IV:

Mobile IP, DHCP, Ad hoc networks: Characteristics, performance issue, routing in mobile host. Wireless sensor network, Mobile transport layer: Indirect TCP, Snooping TCP, Mobile TCP, Time out freezing, Selective retransmission, transaction oriented TCP. Introduction to WAP.

Unit V:

Intruders, Intrusion detection, password management, viruses and related threads, worm, trojan horse defense, difference biometrics and authentication system, firewall design principle.

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References:-

1 J. Schiller, "Mobile Communication", Addision , Wiley
2 William Stalling, "Wireless Communication and Network", Pearson Education
3 Upena Dalal," Wireless Communication", Oxford Higher Education
4 Dr. Kamilo Feher, "Wireless Digital communication", PHI
5 William C.Y Lee, "Mobile Communication Design Fundamental" , John Wiley.

Suggested List of Practicals:

To implement mobile network using open source softwares like NS2 etc.
Implement Code Division Multiple Access (CDMA).
To write a programme to implement concept of frequency reuse when given size of geographical area and the set of available frequencies.
Study of OPNET tool for modeling and simulation of different cellular standards.
Study and Analysis of wired network.
Study and Analysis of wireless network.
Study and Analysis of Bluetooth.
Study of Mobile IP.
Write programs using WML (Wireless Markup Language) Rajiv Gandhi Proudyogiki Vishwavid

Course Outcomes:

Upon completion of this course, students will be able to-

1. Explain the basic concepts of wireless network and wireless generations.
2. Demonstrate the different wireless technologies such as CDMA, GSM, GPRS etc
3. Explain the design considerations for deploying the wireless network infrastructure.
4. Appraise the importance of Adhoc networks such as MANET and Wireless Sensor networks
5. Differentiate and support the security measures, standards. Services and layer wise security considerations

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Information Technology, VI- semester

Open Elective IT 604(B) Software Engineering

Course Objectives:

1. To introduce software development life cycle and various software process models
2. To introduce measures and metrics for software quality, reliability and software estimation techniques
3. To develop an understanding of software analysis and design phases
4. To introduce coding standards, guidelines and various software testing techniques
5. To introduce various activities for software maintenance and quality assurance

Unit I

Introduction, Software- problem and prospects Software development process: System Development Life Cycle, Waterfall Model, Spiral Model and other models, Unified process Agile development-Agile Process- Extreme Programming- Other agile Process models.

Unit II

Measures, Metrics and Indicators, Metrics in the Process and Project Domains, Software Measurement, Metrics of Software Quality, S/W reliability, Software estimation techniques, LOC and FP estimation. Empirical models like COCOMO, project tracking and scheduling, reverse engineering.

Unit III

Software requirements and specification: feasibility study, Informal/formal specifications, pre/post conditions, algebraic specification and requirement analysis models, Specification design tools. Software design and implementation: Software design objectives and techniques, User interface design, Modularity, Functional decomposition, DFD, Data Dictionary, Object oriented design, Design patterns implementation strategies like top- down, bottom-up.

Unit IV

Coding standard and guidelines, programming style, code sharing, code review, rapid prototyping, specialization, construction, class extensions, intelligent software agents, reuse performance improvement, debugging. Software Testing Strategies: Verification and Validation, Strategic Issues, test plan, white box, black-box testing, unit and integration testing, system testing test case design and acceptance testing, maintenance activities.

Unit V

Software Maintenance: Software Supportability, Reengineering, Business Process Reengineering, Reverse Engineering, Restructuring, Forward Engineering, Economics of Reengineering, project scheduling and tracking plan, project management plan, SQA and quality planning, SCM activities

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and plan, CMM, Software project management standards, Introduction to component based software engineering.

References:

1 P.S. Pressman, Software Engineering. A Practitioner's Approach, TMH.
2 Rajib Mall, Fundamental of Software Engineering, PHI.
3 Hans Van Vliet, Software Engineering, Wiley India Edition.
4 James S. Peters, Software Engineering, Wiley India Edition.
5 Pankaj Jalote, Software Engineering: A Precise Approach, Wiley India.
6 Kelkar, Software Project Management, PHI Learning

Course Outcomes:

Upon completion of this course, students will be able to-

1. Define various software application domains and remember different process model used in software development.
2. Understand various measures of software and Generate project schedule.
3. Describe functional and non-functional requirements of software and develop design models of software.
4. Investigate the reason for bugs and apply the software testing techniques in commercial environment.
5. Understand various activities to be performed for improving software quality and software maintenance.

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New Scheme Based On AICTE Flexible Curricula

Information Technology, VIII- semester

IT 801- Information Security

Course Objectives:
The objective of this course is to familiarize the students with the fundamentals of information security and the methods used in protecting both the information present in computer storage as well as information traveling over computer networks.

Unit I Introduction: Fundamental Principles of Information Security- Confidentiality, Availability, Integrity, Non Repudiation, The OSI Security Architecture, Security Attacks, Security Services, Security Mechanisms, a Model for Network Security; Classical Encryption Techniques: Symmetric Cipher Model, Substitution Techniques, Transposition Techniques, Steganography

Unit II Block Ciphers and Data Encryption Algorithm: Block Cipher Principles, The Data Encryption Standard, The Strength of DES, Differential and linear cryptanalysis, Block Cipher Design Principles; Advanced Encryption Standard: Evaluation criteria of AES, The AES Cipher, Multiple Encryption and Triple DES, Block Cipher modes of operation, Stream Ciphers, Confidentiality using Symmetric Encryption

Unit III Public Key Encryption: Principles of Public Key Cryptosystems, The RSA algorithm, Key Management, Diffie-Hellman Key Exchange, Elliptic curve cryptography; Message Authentication and Hash Functions: Authentication requirements, Authentication Functions, Message Authentication Codes, Hash Functions, Security of Hash Functions and MACs; Hash and MAC algorithms: Secure Hash Algorithm, HMAC; Digital Signatures and Authentication Protocols, Digital Signature Standard

Unit IV Authentication Applications, Kerberos, X.509 Authentication Service, Public key infrastructure; Electronic Mail Security: Pretty Good Privacy; IP Security: IP Security Overview, Architecture, Authentication header, encapsulating security payload, Key management; Web Security: Web security considerations, Secure Socket Layer and Transport layer Security, Secure Electronic Transaction

Unit V System Security: Intruders, Intrusion Detection, Password management; Malicious Software: Different type of malicious software, Viruses and related threats, Virus Countermeasures, Threats and attacks on Information Security, DoS and DDos Attacks; Security controls required for Information Security, Firewalls: Firewall design principles, Trusted Systems, Common criteria for information technology security evaluation

References:

1. William Stallings, "Cryptography and Network Security", Fourth edition, PHI
2. Atul Kahate, "Cryptography and Network Security", McGraw Hill.
3. V.K. Pachghare, "Cryptography and Information Security", PHI Learning

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4. Nina Godbole, "Information System Security", Wiley

Course Outcomes:

After the completion of this course, the students will be able to:

1. Understand key terms and concepts in information security and Cryptography and evaluate the cyber security needs of an organization.
2. Acquire knowledge to secure computer systems, protect personal data, and secure computer networks in an organization
3. Apply knowledge of various encryption algorithms and authentication mechanisms to secure information in computer systems and networks
4. Understand principles of web security to secure network by monitoring and analyzing the nature of attacks and design/develop security architecture for an organization.
5. Design operational and strategic information security strategies and policies.

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New Scheme Based On AICTE Flexible Curricula

Information Technology, VIII- semester

Open Elective IT 803 (B) Human Computer Interaction

Course Objectives:
To provide the basic knowledge on the levels of interaction, design models, techniques and validations focusing on the different aspects of human-computer interface and interactions

Unit I HCI Foundations:
Input–output channels, Human memory, Thinking: reasoning and problem solving, Emotion, Individual differences, Psychology and the design of interactive systems, Text entry devices, Positioning, pointing and drawing, Display devices, Devices for virtual reality and 3D interaction, Physical controls, sensors and special devices, Paper: printing and scanning

Unit II Designing Interaction:
Overview of Interaction Design Models, Discovery - Framework, Collection - Observation, Elicitation, Interpretation - Task Analysis, Storyboarding, Use Cases, Primary Stakeholder Profiles, Project Management Document

Unit III Interaction Design Models:
Model Human Processor - Working Memory, Long-Term Memory, Processor Timing, Keyboard Level Model - Operators, Encoding Methods, Heuristics for M Operator Placement, What the Keyboard Level Model Does Not Model, Application of the Keyboard Level Model, GOMS - CMN-GOMS Analysis, Modeling Structure, State Transition Networks - Three-State Model, Glimpse Model, Physical Models, Fitts' Law

Unit IV Guidelines in HCI:
Shneideman's eight golden rules, Norman's Sever principles, Norman's model of interaction, Nielsen's ten heuristics, Heuristic evaluation, contextual evaluation, Cognitive walk-through
Collaboration and Communication:
Face-to-face Communication, Conversation, Text-based Communication, Group working, Dialog design notations, Diagrammatic notations, Textual dialog notations, Dialog semantics, Dialog analysis and design

Unit V Human Factors and Security:
Groupware, Meeting and decision support systems, Shared applications and artifacts, Frameworks for groupware Implementing synchronous groupware, Mixed, Augmented and Virtual Reality
Validation: Validations - Usability testing, Interface Testing, User Acceptance Testing

References:

1. A Dix, Janet Finlay, G D Abowd, R Beale., Human-Computer Interaction, 3rd Edition, Pearson Publishers,2008
2. Shneiderman, Plaisant, Cohen and Jacobs, Designing the User Interface: Strategies for Effective Human Computer Interaction, 5th Edition, Pearson Publishers, 2010
3. Hans-Jorg Bullinger," Human-Computer Interaction", Lawrence Erlbaum Associates, Publishers
4. Jakob Nielsen," Advances in Human-computer Interaction",Ablex Publishing Corporation

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5. Thomas S. Huang," Real-Time Vision for Human-Computer Interaction", Springer
6. Preece et al, Human-Computer Interaction, Addison-Wesley, 1994

Course Outcomes:

After the completion of this course, the students will be able to:

1. Enumerate the basic concepts of human, computer interactions
2. Create the processes of human computer interaction life cycle
3. Analyze and design the various interaction design models
4. Apply the interface design standards/guidelines for evaluating the developed interactions
5. Apply product usability evaluations and testing methods

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Department of Electronics & Communication Engineering

PROGRAM	Professional Ethics	Gender	Human Values	Environment Sustainaibility
ODD Semester	BT 103 English For Communication			EC 502 Digital Communication
	EC 302 Electronic Measurement & Instrumentation			
	EC 303 Digital System Design			
	EC 508 Minor Project I			
	EC 701 VLSI Design			
	EC 705 IoT Lab			
	EC 706 Major Project- I			
Even Semester	BT 206 Language Lab & Seminars			BT 106 Manufacturing Processes
	EC 608 Minor Project II			ES 401 Energy & Environmental Engineering
				EC 405 Analog Circuits
				EC 602 Antenna & Wave Propagation
				EC 802 Wireless Communication

Coordinator

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Chameli Devi Group of Instituition Indore
Department of Mechanical Engg.
Mini Projects Even Session 2021-22
IV Semester

S.No.	Group No.	Enroll.No.	Name	Title	Name of the Subject	Guide Name	Sign.
1	1	0832ME201001	AAYUSH RINGE	Padel Operated Hack Saw	Theory of Machines (ME 403)	Mr. Hitesh Koshti	
2		0832ME201002	ABHISHEK MACHAR				
3		0832ME201003	AJAY GOLE				
4		0832ME201004	AMIT GHURAWAL				
5		0832ME201005	ANIKET CHOUHAN				
6		0832ME201006	ANKIT PRAJAPATI				
7		0832ME201008	BHAVESH SABLE				
8	2	0832ME201009	DEVENDRA NAGAR	Solar Power Drip Irrigation	Instrumentation & Control (ME 402)	Mr. Manish Gome	
9		0832ME201010	GHANENDRA PAWAR				
10		0832ME201011	HARSH CHOUHAN				
11		0832ME201012	HARSH VERMA				
12		0832ME201013	INDRAJEET LAKSHAKAR				
13		0832ME201014	KULDEEP				
14		0832ME201015	NAVIN CHILHATE				

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S.No.	Group No.	Enroll.No.	Name	Title	Name of the Subject	Guide Name	Sign.
15	3	0832ME201016	NIKHIL VERMA	Gear Operated Bicycle	Theory of Machines (ME 403)	Mr. Kaustubh Kale	
16		0832ME201017	NILESH LACHHETA				
17		0832ME201021	RAHUL PAL				
18		0832ME201022	RAHUL PAWAR				
19		0832ME201023	RAJ MAHOBIYA				
20		0832ME201024	RAJIT RAGHUWANSHI				
21		0832ME201025	RAM HARDIYA				
22	4	0832ME201026	RISHABH SHUKLA	Wind powered Water Pump	Fluid Mechanics (ME 404)	Mr. Dushyant Sahu	
23		0832ME201027	RUPESH PATEL				
24		0832ME201028	SAGAR MEGHWAL				
25		0832ME201029	SARTHAK GAUR				
26		0832ME201031	SHIVAM GAWHADE				
27		0832ME201032	SHYAM SINGH SAGAR				
28		0832ME201033	SOURABH				
29	5	0832ME201034	SOURABH BHASKARE	Bicyle Operated Washing Machine	Theory of Machines (ME 403)	Mr. Anant Dixit	
30		0832ME201035	SOURABH RAI				
31		0832ME201036	SUNIL KUMAR KALESHRIYA				
32		0832ME201038	TILOK JADHAV				
33		0832ME201039	VISHAL PARIHAR				
34		0832ME201040	VISHAL PARMAR				
35		0832ME201041	YASHIKA SHEROKE				

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S.No.	Group No.	Enroll.No.	Name	Title	Name of the Subject	Guide Name	Sign.
36	6	0832ME213D01	ABHAY YADAV	Savonious Wind Mill for Power Generation	Energy & Environmental Engineering (ES 401)	Mr. Srinidhi Rao P.	
37		0832ME213D02	ABHISHEK JANGID				
38		0832ME213D03	ABHISHEK JHA				
39		0832ME213D04	AJAY CHOUHAN				
40		0832ME213D05	ANISH JAMBEKAR				
41		0832ME213D06	ANURAG SHRIVASTAV				
42		0832ME213D07	AYUSH TRIPATHI				
43	7	0832ME213D08	BHARAT RAWAT	Bicycle Operated Vegetable/Fruit Washer	Theory of Machines (ME 403)	Mr. Vipul Jain	
44		0832ME213D09	BHARAT SHARMA				
45		0832ME213D10	DEVENDRA PATIL				
46		0832ME213D11	DINESH CHOUDHARY				
47		0832ME213D12	GOURAV BARHAIYA				
48		0832ME213D13	GOVIND				
49		0832ME213D14	HARISH NAGAR				
50		0832ME213D15	HARSH DASHORE				
51	8	0832ME213D16	HRITHIK CHATURVEDI	Flywheel Operated Bicycle	Theory of Machines (ME 403)	Mr. Atreya Pathak	
52		0832ME213D17	HRITIK YADAV				
53		0832ME213D18	JAYESH				
54		0832ME213D19	MAHENDRA MORVE				
55		0832ME213D20	MOHD SAMEER				
56		0832ME213D21	MOHIT				
57		0832ME213D22	NANDLAL SANANSE				

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S.No.	Group No.	Enroll.No.	Name	Title	Name of the Subject	Guide Name	Sign.
58	9	0832ME213D24	PANKESH	Solar Hard Water Softener	Energy & Environmental Engineering (ES 401)	Mr. Deepak Bhonde	
59		0832ME213D25	PAWAN SHARMA				
60		0832ME213D26	PRADHYUMN GURJAR				
61		0832ME213D27	PRATAP SINGH DARBAR				
62		0832ME213D28	PUSHPRAJ				
63		0832ME213D30	RAKESH KUMAR SINGH				
64		0832ME213D31	RITIK SEN				
65	10	0832ME213D32	ROHIT ARYA	Adjustable Frame/ Foldable Bicycle	Theory of Machines (ME 403)	Mr. Amit Kesheorey	
66		0832ME213D33	ROHIT ZOPE				
67		0832ME213D34	SHASHANK SHARMA				
68		0832ME213D36	SHUBHAM				
69		0832ME213D37	TANISHQ PARMAR				
70		0832ME213D39	VARUN VERMA				
71		0832ME213D41	VIKAS RANAVADIYA				
72		0832ME213D42	VIVEK SHARMA				

HOD

Mechanical Engineering Department

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Department of First Year Courses (Enginering Science & Humanities)

PROGRAM	Professional Ethics	Gender	Human Values	Environment Sustainaibility
ODD Semester	English for Communication (BT103)			Engineering Chemistry (BT101)
	Basic Computer Engineering (BT205)			
Even Semester	English for Communication (BT103)			Engineering Chemistry (BT101)
	Basic Computer Engineering (BT205)			

Samiya Kawala 20/8/22

RUMA ARORA 20/08/22

Shreyas Pagare 20/8/22

Head of Dept

ESH Principal

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DEVI AHILYA VISHWAVIDYALAYA, INDORE

MBA (Marketing Management)

CURRICULUM AND DETAILED SYLLABUS

Semester	Code	List of Subjects
I	MM 101	FUNDAMENTALS OF MANAGEMENT
	MM 102	BUSINESS COMMUNICATION
	MM 103	ORGANIZATIONAL BEHAVIOUR
	MM 104	PRINCIPLES OF MARKETING MANAGEMENT
	MM 105	FINANCIAL ACCOUNTING
	MM 106	COMPUTER APPLICATIONS
II	MM 201	HUMAN RESOURCE MANAGEMENT
	MM 202	STATISTICAL METHODS FOR BUSINESS DECESIONS
	MM 203	PURCHASING AND MATERIALS MANAGEMENT
	MM 204	QUATITATIVE TECHNIQUE
	MM 205	MARKETING STRATEGIES
	MM 206	MARKETING RESEARCH
III	MM 301	INFORMATION TECHNOLOGY
	MM 302	SUPPLY CHAIN MANAGEMENT
	MM 303	INTERNATIONAL MARKETING
	MM 304	CONSUMER BEHAVIOUR
	MM 305	ADVERTISING, SALES PROMOTIONAND PUBLIC RELATIONS
	MM 306	SALES MANAGEMENT AND MERCHANDIZING
IV	MM 401	PRODUCT AND BRAND MANAGEMENT
	MM 402	RURAL MARKETING
	MM 403	INDUSTRIAL MARKETING
	MM 404	SERVICE MARKETING
	MM 405	DIRECT AND EVENT MARKETING
	MM 406	MAJOR RESEARCH PROJECT/MARKETING DECISIONS

First Semester

MM-101 : FUNDAMENTALS OF MANAGEMENT

Course Objectives

Objectives of this course are to help the students gain understanding of the functions and responsibilities of the manager, provide them tools and techniques to be used in the performance of managerial job, and enable them to analyze and understand the environment of the organization.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections A and B. Section A, worth 66 marks will consist of five theory questions, out of which students will be required to attempt any three questions, and Section B will comprise of one or more case(s), worth 24 marks.

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Course Contents

1. **Concept of Management:** Functions and Responsibilities of Managers, Fayol's Principles of Management, Management Thought; the Classical School, the Human Relations School, Systems theory, Contingency Management, Developing Excellent Managers.
2. **Planning:** Nature and Purpose of Planning, the Planning Process, Principles of Planning, Types of Planning, Advantages and Limitations of Planning.
3. **Concept and Nature of Objectives:** Types of Objectives, Importance of Objectives, Setting objectives, Management by Objectives (MBO) Benefits and weaknesses of MBO.
4. **Strategies and Policies:** Concept of Corporate Strategy, formulation of Strategy, Types of Strategies, the Strategic Planning Process, the TOWS Matrix, the Portfolio Matrix, Three Generic Competitive strategies by Porter, Effective Implementation of Strategies, Types of Policies, Principles of formulation of Policies, Decision Making Process, Individual Decision Making Models.
5. **Organizing:** Nature and Purpose of Organizing, Bases of Departmentation, Span of Management, Determinants of Span of Management, Line and Staff Relationship, Line-Staff Conflict, Bases of Delegation, Kinds of Delegation, Delegation and Decentralization, Methods of Decentralization.
6. **Controlling:** Concept and Process of Control, Control Techniques, Human Aspects of Control, Control as a feedback system, Feedforward Control, Preventive Control, Profit and Loss Control, Control through Return on Investment, the Use of Computer for Controlling and Decision Making, the Challenges created by IT as a Control Tool.

Text Readings

1. Harold Koontz, O'Donnell and HeinzWeihrich (1992). **Essentials of Management**, New Delhi, Tata McGraw Hill.
2. R. D. Agrawal (1995). **Organization and Management**, New Delhi, Tata McGraw Hill.

Suggested Readings

1. Harold Koontz, HeinzWeihrich (1994). **Management: A Global Perspective**, New Delhi, McGraw Hill, 10th Edition.
2. Robert Krietner (1999). **Management**, Houghton Miffin Co., 7th Edition.

MM-102 : BUSINESS COMMUNICATION

Course Objectives

The objectives of the course are to help the students acquire the basics of interpersonal communication and public speaking, so as to improve his communication skills and ability to understand others.

Examinations

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections A and B. Section A, worth 66 marks will consist of five theory questions, out of which students will be required to attempt three questions. Section B will comprise one or more case(s) worth 24 marks.

Course Contents

1. **Introduction:** Defining Communication, Process of Communication, Communication Model, Objectives of Communication, Principles of Effective Communication, Importance of Business Communication, and Importance of Feedback.

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2. **Factors Affecting Communication:** Perception and Reality, Physical, Mechanical and Psychological Barriers to Communication, Effective Listening- Types and Essentials of effective listening.

3. **Channels, Types and Forms of Communication:** Verbal, Non-verbal, Formal, Informal, Internal, External and Communication Networks.

4. **Designing for Effective Communication:** Understanding the Composition Process, Defining the Purpose, Analyzing the Audience, Establishing the main idea, Selecting the Appropriate Channel and Medium, Transactional Analysis.

5. **Fundamentals of Business Writing:** Adaptation and Selection of Words, Construction of clear Sentences and Paragraphs, Writing for Effect, Basic Patterns of Business Letters, Directness in Good News and Neutral Situations, Indirectness in Bad News and Persuasive Messages, Dealing with Print and Electronic Media.

6. **Employment Messages:** Writing Résumé's: Controlling the Format and Style, Tailoring the Contents, Choosing the Best Organizational Plan, Writing the Perfect Resume. Application Letters: Writing the Opening Paragraph, Summarizing the Key Selling Points, Writing the Closing Paragraph.

7. **Reports and Proposals:** Using Reports and Proposals as Business Tools, Completing and Writing Reports and Proposals.

Text Readings

1. William V. Ruch (1991). **Business Communication,** Maxwell Macmillan, New York.
2. Lani Arredono (1994). The McGraw-Hill 36-Hour Course: Business Presentation, McGraw-Hill, New York.
3. Bill Scott (1995). **The Skills of Communication,** Jaico, Bombay.
4. Ronald E. Dulek and John S. Fielden (1990). **Principles of Business Communication,** McMillan, New York.

MM-103 : ORGANIZATIONAL BEHAVIOUR

Course Objectives

Objective of this course is to help students to understand human Behaviour in organizations so that they improve their managerial effectiveness.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections A and B. Section A, worth 66 marks will consist of five theory questions, out of which students will be required to attempt three questions. Section B will comprise one or more case(s) worth 24 marks.

Course Contents

Foundations of Individual and Organizational Behaviour: OB Models, Personality-Determinants and Attributes, Values, Job Attitudes, Learning and Learning Theories, Perception- Factors affecting Perception and Cognitive Dissonance theory.

Motivation: Needs, Contents and Processes; Maslow's Hierarchy of Needs, Herzberg's Two Factor theory, ERG theory, Vroom's Expectancy theory, Reinforcement theory and Behaviour Modification.

Foundations of Group Behaviour: Defining and Classifying Groups, Group Structure and Processes, Process of Group formation, Group Decision Making, Group v/s Team, Team Effectiveness, and Decision Making.

Leadership: Trait theories, Behavioral theories- Ohio State Studies, Michigan Studies, and Managerial Grid. Contingency theories- Fiedler's Model, Hersey and Blanchard's Situational theory, Leader-Member Exchange theory, Path Goal theory, Charismatic Leadership.

Conflict: Intra-individual Conflict, Interpersonal Conflict, Intergroup Conflict, Organizational Conflict Transitions in Conflict Thought, Functional versus Dysfunctional Conflict, Conflict Process, Conflic Management Techniques.

Organizational Change and Stress Management: Forces of Change, Resistance to Change, and Levin's Three-Step Model, Stress Management-Potential Sources, Consequences and Coping Strategies for Stress.

Organizational Culture: Definition, Uniform Cultures, Relevance of Culture, Creating and Sustaining Culture, How Employees Learn Culture.

Text Reading

1. Stephen P. Robbins (2000). **Organizational Behaviour: Concepts, Controversies, and Applications,** New Delhi, Prentice Hall, 9th Edition.
2. Fred Luthans (1998). **Organizational Behaviour,** New York, McGraw Hill, 8th Edition.
3. Bill Scott (1995). **The Skills of Communications,** Jaico Publications, Bombay.
4. John W. Newstrom and Keith Davis (1993). **Organizational Behaviour: Human Behaviour at Work,** New Delhi, Tata McGraw Hill.

Suggested Reading

1. Upinder Dhar and Santosh Dhar (2002). **Case Method in Management Education: Text and Illustrations,** Excel, New Delhi.

MM-104 : PRINCIPLES OF MARKETING MANAGEMENT

Course Objectives

The objectives of this course are to provide the students exposure to modern marketing concepts, tools, and techniques, and help them develop abilities and skills required for the performance of marketing functions.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections, A and B. Section A, worth 66 marks, will consist of five questions, out of which students will be required to attempt three questions, Section B will comprise of one or more cases/problems, worth 24 marks.

Course Contents

1. **Marketing Concepts:** Customer Value and Satisfaction, Customers Delight, Conceptualizing Tasks and Philosophies of Marketing Management, Value chain, scanning the Marketing Environment.
2. **Market Segmentation, Targeting, Positioning:** Market segmentations, levels of market segmentations, patterns, procedures, requirement for effective segmentation, evaluating the market segments, selecting the market segments, tool for competitive differentiation, developing a positioning strategy.
3. Marketing Information System and Marketing Research Process.
4. **Product Decision:** Objectives, Product classification, Product-Mix, Product life cycle strategies, equity, challenges, repositioning branding, Introduction and factors contributing the growth of packaging, Introduction of labeling.
5. **Pricing Decision:** Factors affecting price, pricing methods and strategies.

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MS PowerPoint 2000: PowerPoint basics, creating presentation the easy way, working with text in PowerPoint, working with graphics in power point

MS Access 2000: Database creation, screen/form design, report generation using wizard.

Internet: Concepts & Services, Hardware and software requirements, type of Internet connections, advantages and disadvantages of Internet, modems, World Wide Web, e-mail, chat, browsers, search engines. Overview of Intranets and Extranets.

Information Technology: Introduction to IT and its development, Impact and Future of IT in Business Organizations, Overview of the following: 4 GL, Image Processing, Virtual Reality, Video Conferencing, Artificial Intelligence, and Information Super Highways.

t Reading

Suresh K. Basandra (2001). **Computers Today,** Galgotia Publications Pvt. Ltd., New Delhi.

P.K. Sinha (2001). **Computer Fundamentals,** BPB Publications, New Delhi.

Annettema Stulz, **Learn DOS in a Day,** BPB Publications, New Delhi.

Gini Courter and Annette Marquis (1999). **Microsoft Office 2000 No Experience Required,** BPB Publications, New Delhi.

Laurie Ulrich (1999). **Tech yourself Microsoft Office 2000 in 21 days,** Techmedia, New Delhi.

Christian Crumlish (1998). **ABCs of the Internet,** BPB Publications, New Delhi.

Sumitabha Das (1997). **Unix Concepts and Applications,** Tata McGraw Hill Pub. Co. Ltd., New Delhi.

Muneesh Kumar (1999). **Business Information Systems,** Vikas Publishing House Pvt. Ltd., New Delhi.

ggested Readings

S. Jaiswal (2001). **Information Technology Today,** Galgotia Publications Pvt. Ltd., New Delhi.

Alexis Leon & Mathews Leon (1999). **Fundamentals of Information Technology,** Vikas Publishing House Pvt. Ltd., New Delhi.

Deepak Bharihoke (2000). **Fundamentals of Information Technology,** Excel Books, New Delhi.

Ron Mansfield (1999). **The Compact guide to Microsoft office,** BPB Publications, New Delhi.

David Garrett et. al (1998). **Intranets Unleashed,** Techmedia, New Delhi.

Second Semester

MM-201 : HUMAN RESOURCE MANAGEMENT

ourse Objectives

ie objectives of this course are to help the students develop an understanding of the dimensions of e management of human resources, with particular reference to HRM policies and practices in India. tention will also be paid to help them develop their communication and decision making skills through ise discussions, role-plays etc.

xamination

he faculty member will award marks out of a maximum of 10 marks for the internal performance of ie student. The Semester examination will be worth 90 marks. It will have two sections, A and B. ection A, worth 66 marks, will contain five theory questions out of which students will be required to ttempt three questions. Section B will comprise of one or more cases, worth 24 marks.

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Course Contents:

1. **The Field of HRM:** An Overview, Concept and Functions, Personnel to HRM, AMO, HRM Model
2. **Acquisition of Human Resources:** Objectives, Policies and Process of Human Resource Planning, Human Resource Planning In Evolving Small and Entrepreneurial Organization, Job Analysis, Job Description, Job Specification, Job Design (Nature of Job Design, Job Characteristics Reengineering Jobs, Using Teams in Jobs ,Advantages and Disadvantages of Team Jobs Consequences of Job Design), Recruitment,, Promotion and Transfer.
3. **The Human Resource Organization :** Structure of Human Resource Management, Role and Responsibilities of the Human Resource Selection, Induction, Placement Department (Administrative, Operational and Strategic Role of HR).
4. **Human Resource Policies:** formulation and Essentials of Sound HR Policies.
5. **Development of Human Resources:** Learning, Training and Development, Evaluation of Training and Performance Appraisal (Appraising Individual and Team Performance), introduction to Career and Succession Planning.
6. **Maintenance of Human Resources:** Job Evaluation, Designing and Administering the Wage and Salary Structure, Compensation, Grievance Handling Procedure .
7. **Separation Processes:** Turnover, Retirement, Layoff, Retrenchment and Discharge, VRS (Mechanism of VRS, VRS In Public Sector and Private Sector), Rehabilitation of Surplus Employees.
8. **Emerging Trends and Challenges in HRM:** Economic & Technological Change, Work force Availability and Quality, Enhancing Organizational Performance, Expanding Human Capital, Ethics and HRM, HR Management Competencies and Careers - Knowledge of Business Organizations and Organization Culture, Influence and Change Management, Specific HR Knowledge and Expertise.

Text Readings

1. Michael Armstrong (2001). **A Handbook of Human Resource Practice**, London, Kogan Page, 8th Edition.
2. David S. Decenzo and Stephen P. Robbins (1988). **Personnel/Human Resource Management**, New Delhi, Prentice Hall, 3rd Edition.
3. Robert L. Mathis and John H. Jackson (1995). **Human Resource Management**, 9th Edn., South Western College Publishing.

Suggested Readings

1. William B. Werther Jr. and Keith Davis (1993). **Human Resources and Personnel Management**, Singapore, McGraw Hill, 4th Edition.
2. Arun Monappa and Mirza S. Saiyadain (1995) **Personnel Management**, New Delhi, Tata McGraw Hill.
3. P Subba Rao (2000). **Essentials of Human Resource Management and industrial Relations: Text, Cases and Games**, Mumbai, Himalaya.
4. Biswajeet Patanayak (2001). **Human Resource Management**, New Delhi, Prentice Hall India.
5. Holloway J. Ed. (1996). **Performance Measurement and Evaluations**, New Delhi, Sage Publications.
6. Guy V. & Matlock J. (1993). **The New International Manager**, London, Kogan Press.

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Text Reading

1. S. D. Sharma (2002). **Operations Research,** Meerut: Kedar Nath Ram Nath and Co., 8th Edition
2. N. D. Vohra (2000). **Quantitative Techniques,** New Delhi: Tata McGraw Hill Publications, 15tl Edition.
3. Hamdy A. Taha (1996). **Operations Research: An Introduction,** New Delhi: Prentice Hall o India Pvt. Ltd.
4. Haruly M. Wagner (1996). **Principles of Operations Research with application t managerials decisions,** New Delhi: Prentice Hall of India Pvt. Ltd, 2nd Edition.
5. V. K. Kapoor (2001). **Problems and Solutions in Operations Research,** New Delhi: Sultan Chan and Sons.

MM-205 : MARKETING STRATEGIES

COURSE OBJECTIVE

The course objective is to expose the students to formulation and implementation of various marketing strategies and mechanisms of their application and controls.

EXAMINATION

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will carry 90 marks having two sections, A and B. Section A, carrying 66 marks, will have five questions out of which students will be required to attempts three questions. Section B will have a case worth 24 marks which will be compulsory.

COURSE CONTENTS

1. **Meaning, Need and Process of Strategic Management :** Business Policy, Corporate Planning and Strategic Management; Single and Multiple SBU organisations; Strategic Decision-Making Processes - Rational-Analytical, Intuitive-Emotional, Political - Behavioural; Universality of Strategic Management; Strategists at Corporate Level and at SBU Level; Interpersonal, Informational and Decision Roles of a Manager.
2. **Mission, Business Definition and Objectives :** Need, Formulation and changes in these three; Hierarchy of objectives, Specificity of Mission and Objectives.
3. **The strategies role of marketing :** Corporate, business and marketing strategies, definition, components of strategy, hierarchy of strategies, strategic planning systems, characteristics of effective planning systems.
4. **Process of formulating and implementing marketing strategy :** Market opportunity analysis, customer analysis, implementation and control.
5. **Business Strategies and their marketing implications :** Defining strategic business unit, business unit objectives, allocating resources within the business unit, the business units competitive strategy. BCG Growth share Matrix, GE Matrix, Shell's Matrix.
6. **Formulation of marketing strategies :** For new market entries, mass market penetration, Niche penetration, skimming and early withdrawl,objectives of alternative pioneer strategies.
7. **Marketing strategies :** For leaders, challengers and followers.
8. **Controlling marketing strategies and programmes :** control process, setting standards of performance, specifying and obtaining feedback data, corrective action, strategic controls, product market entry controls.

TEXT READINGS

1. Boyde Walker and Lawrence (1995). Marketing Strategy : Planning and Implementation, Chicago : Irwin, 2nd Edition.
2. Philip Kotler (1994). Marketing Management : Analysis, Planning, Implementation and Control, New Delhi : PHI, 8th Edition.

MM-206 : MARKETING RESEARCH

Course Objectives

The objectives of the course are to equip the students with the concept and methods of Business Research. The students will be able to plan, design and carry out business research using scientific methods and prepare research report(s) / paper(s).

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination worth 90 marks will contain seven questions out of which the students will be required to attempt any five questions.

Course Contents

1. **Introduction to Research Methods:** Role and objectives of business research, types of research, research process: Overview, problems encountered by researcher.
2. **Research Design:** Selecting research problem, defining research problem, need for research design, features of a good research design and different research designs (exploratory, descriptive, experimental and diagnostic research, hypothesis testing).
3. **Sampling Theory and Design of Sample Survey:** Census Vs Sample Enumerations, Objectives and Principles of Sampling, Types of Sampling, Sampling and Non-Sampling Errors.
4. **Data Collection and Analysis:** Collection, Organization, Presentation, Analysis and Interrelation of Primary and Secondary Data, Multiple Regression, Factor Analysis, Cluster Analysis, Perceptual Mapping, Multidimensional Scaling, Discriminant and Canonical Analysis, Conjoint Analysis.
5. **Measurement of Scaling Concepts:** Measurement in research, measurement scales, sources of errors in measurement, Techniques of developing measurement tools, classification and testing (reliability, verification and validity) scales, Designing questionnaires and interviews.
6. **Interpretations and Report Writing:** Meaning of interpretation, techniques of Interpretation, precautions in interpretation, significance of report writing, steps in report writing, layout of report and precautions in writing research reports.

Text Readings

1. William G. Zikmund, **Business Research Methods**, Orlando: Dryden Press.
2. C. William Emory and Cooper R. Donald (1991). **Business Research Methods**, Boston, Irwin, 4th Edition.
3. Fred N Kerlinger, **Foundations of Behavioural Research**, New Delhi: Surjeet Publications.

Suggested Readings

1. David Nachmias and Chava Nachmias, **Research Methods in the Social Sciences**, New York: St.Marlia's Press.
2. C. R. Kothari, **Research Methodology: Methods and techniques**, New Delhi: Vishwa Prakashan.

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1 Kenneth C. Laudon & Jane P. Laudon (2000). Management Information Systems, Prentice Hall of India Pvt. Ltd., New Delhi.

MBA-302 : SUPPLY CHAIN MANAGEMENT

Course Objective

The course is designed to expose basic theory and techniques of logistics to examine the issues and problems associated with logistics in a changing business environment, and to show how logistics can improve an enterprises effectiveness and competitiveness. Student would be encouraged to use computer software packages for problem solving.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. Semester examination will be worth 90 marks. It will have two sections A and B. Section A worth 66 marks will consist of five theoretical questions and Section B worth 24 marks will have one or more cases.

Course Contents

1. **Introduction to logistics :** Its interface with production and marketing; measures of logistics
2. **Supply Chain Management**
3. **Logistics system analysis and design**
4. **Warehousing and distributing centers, their location; transportation systems; facilities and agencies**
5. **Dispatch and routing decisions and models**
6. **Inventory management decisions**
7. **Logistics audit and control**
8. **Packaging and materials handling**
9. **International logistics management**
10. **Logistics future directions.**

Text Readings

1. Ballau, Renald H (1992). Business Logistics Management, Englewood Cliffs, New York: Prentice Hall Inc.
2. Beal K. (1990). A Management Guide to Logistics Engineering, U. S. A. Institute of Production Engineering.
3. Benjamin S. B. (1996). Logistics Engineering and Management, Englewood Cliffs, New York: Prentice Hall Inc..
4. Bowersox, D J and Closs, D. J. (1986). Lotistics Management: A system Integration of Physical Distribution, New York: MacMillan.
5. Christopher, M. (1992). Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services, London: Pitsman.
6. James C.J. and Wood, Donald F. (1990). Contemporary Logistics, New York: Macmillan.
7. Shapiro, R. (1995). Logistics Strategy: Cases and Concepts, St.Paul: West.
8. B. S. Sahay (1994). Supply Chain Management, New Delhi: Wheeler.

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MM-304 : CONSUMER BEHAVIOUR

Course Objectives

The objectives of this course are to help students gain an understanding of Consumer Behaviour and its applications.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination, carrying 90 marks will have two sections A & B. Section A, with 66 marks will have five theory questions. Section B carrying 24 marks will have one or more case(s).

Course Contents

Introduction to the Study of Consumer Behavior: Nature, Scope and application.

Environmental Influences on Consumer Behavior: Cultural, social, personal, family and situational influences, opinion leadership and life style marketing: characteristic of culture, cross cultural understanding, nature of social class, Social class and consumer behaviour, nature and significance of personal influence, marketing implications of personal influence, significance of family in consumer behaviour and family life cycle, opinion leadership forms.

Consumer as an Individual: Involvement and motivation, knowledge, attitude, values, Personality, learning and life style, Dimensions of involvement and its marketing imprecations, nature and role of motive, classifying motive, characteristics, functions and sources of attitudes, attitude theory and model, characteristics and classification of learning, personality theory and application, psychographics.

1. **Consumer Decision Processes**
   a. Pre-purchase process: Information processing,
   b. Purchase Processes: Consumer Decision rules.
   c. Post purchase processes: Framework, dissonance satisfaction / dissatisfaction.
2. **Consumer Behaviour Models:**
   a. Howard Model
   b. Howard Sheth Model
   c. Engel Blackwell and Miniard Model
   d. Sheth Family Decision Making Model.
3. CRM: CRM and Consumer Behavior, Consumer Roles, Market Values and CRM.

Text Readings

1. Leon G. Schiffman and Lustic Lazar Kanuk (1995). **Consumer Behaviour**, Prentice Hall, 6th Edition.
2. William D. Wilkie (1994). **Consumer Behaviour**, John Wiley and Sons, New York, 3rd Edition.
3. Michael Solomon, Rajneri Mittal and Bruce J. Newman (1999). **Consumer Behaviour and Beyond.**

Suggested Readings

1. James F. Engel, Roger D. Blackwell, and Paul W.Miniard (1990). **Consumer Behaviour**, Dryden Press, Chicago, 6th Edition.
2. Michael Solomon and Albert J. Della Bitta (1991). **Consumer Behaviour**, McGraw Hill, 4th Edition.
3. Suja R. Nair (2011). **Consumer Behaviour**, New Delhi, Himalaya Publishing House, 1st Edition.

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HM-305 : ADVERTISING, SALES PROMOTIONAND PUBLIC RELATIONS

COURSE OBJECTIVES

The objectives of this course are to explain to the students the advertisement function and the methods of sales promotion.

EXAMINATION

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 50 marks, having two sections A & B. Section A carrying 66 marks, will have five theory questions out of which students will be required to attempt three questions. Section B worth 24 marks will have one or more case(s).

COURSE CONTENTS

1. **Nature of Advertising:** Definition and significance, Kinds of advertising, advertising agency, structure, function and process, Client agency relationship.
2. **Campaign Planning :** product market analysis, setting advertising objectives, advertising budgets.
3. **Media Decisions :** Types of media , factors affecting media selection, Scheduling.
4. **Message Design :** Creative strategy, appeals, message format and copywriting, layout and illustration
5. **Sales Promotion:** Nature, Purpose and types of sales promotion activities, factors affecting sales promotion.
5. **Advertising research :** Copy testing, Message testing
6. **Introduction to Public Relations:** History, Theory, Public Relations' role in organizations, The PR practitioner as a consultant, Stakeholder Management The nature and role of public relations in a democratic society and worldwide, activities of public relations professionals, major influences that affect organizational behavior, ethics and professional development of practitioners in the private and public sectors.
7. **Public Relations Research :** Using principles of scientific research to establish, monitor and evaluate communications programs: research planning, theory, design - sampling, surveys, experiments, focus groups, content analysis and participant observation, qualitative and statistical analysis and reporting of research with advanced technologies.
8. **Public Relations Campaigns.** Utilizing the principles and techniques of public relations to create comprehensive campaigns for actual clients. Advertising,periodicals,social events, media, oral and written communication

TEXT READINGS

1. Mahendra Mohan, **Advertising Management : Concepts and Cases**, New Delhi : Tata McGraw Hill, New Delhi.
2. S. R. Chunawala & K. C. Sethia, **Foundations of Advertising**, New Delhi : Himalya Publication House.
3. David Aaker, Rajeev Batra and John Myers. **Advertising Management**, New Delhi: Prentice Hall.
4. George E. Belch and Michal A.Belch. (1993). **Introduction to advertising and promotion : An integrated Marketing Communication perspective.** U.S.A : Irwin, 2nd Edition.
5. Scott M. Cutlip, Allen H. Center, and Glen M. Broom(1985). **Effective Public Relations.** Printice-Hall, Inc. : New Delhi.

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Text Readings

1. Robert R.Reeder, Edward G.Brierty, and Betty H. Reeder. (1998). Industrial Marketing Analysis, Planning and Control, New Delhi, Edward, PHI, 2nd Edition.
2. Krishna K. Havidar (2002). Industrial Marketing, Tata Mc Graw Hill, Delhi.

Suggested Readings

1. Michael H. Morris (1992). Industrial and Organizational Marketing, New York, Macmillian 2nd Edition.

MM-404 : SERVICE MARKETING

Course Objective

The objectives of the course are to expose students to the nature of industrial and service market: and develop abilities to help them apply marketing concepts in these markets.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The Semester Examination, carrying 90 marks will have two Sections, A and B. Section A, worth 66 marks, will have five theory questions, out of which students will be required to attempt three questions. Section B, worth 24 marks, will have one or more cases.

Course Contents

1. **Services:** Service Sector and Economic Growth, Service Concept, Characteristics and Classification of Service, Challenges in Service Marketing.
2. **Strategic Issues in Service Marketing:** Segmentation, Differentiation and Positioning of Services.
3. **Marketing Mix in Services Marketing:** Product, Price, Place, Promotion, People, Physical Evidences and Process Decisions.
4. **Designing a Service Strategy:** Service Management Process; Internal, External and Interactive marketing strategies.
5. **Managing Service quality and Productivity:** Concept, Dimensions and process; service quality models (Gronnos and Parsuraman) Application and Limitations, Productivity in Services.
6. **Applications of Service Marketing:** Marketing of Financial, Hospitality, Health, Educational and Professional Services, Marketing for Non-Profit Organizations and NGOs.

Text Readings

1. Christopher H. Lovelock (1996). Services Marketing, New Delhi: Prentice Hall of India, 3rd Edition.

Suggested Readings

1. Ravi Shankar (1998). Services Marketing, New Delhi, Global Press, 2nd Edition.
2. V. A. Zeithamal and M. J. Bitner (2002). Service Marketing: Integrating Customer Across the Firm, McGraw Hill.

MM-405 : DIRECT AND EVENT MARKETING

Course Objectives

The objectives of this course are to expose the students to various aspects of rural, event and direct marketing as an integral part of marketing management, and developed an understanding of rural, event and direct marketing.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination, carrying 90 marks, will have two sections, A and B. Section A, worth 66 marks, will have five theory questions out of which students will be required to attempt three questions. Section B, carrying 24 marks, will contain one or more cases.

Course Contents

1. **Event Management:** Concept and significance of events, Designing of an event, types of events, Event management in rural and urban areas.
2. **Organizing the events :** Structure and manage an event planning schedule to improve profitability, Conduct comprehensive needs assessments and feasibility studies ,Identify and prioritize event goals and objectives,Establish an organizational chart that best suits your event and details staff and volunteer duties,Implement effective record-keeping systems that meet local, state, and federal requirements,Develop and conduct staff and volunteer evaluations and performance reviews,Implement thorough training for event staff and volunteers,Identify and develop a total promotional strategy, including the event proposal, invitations, advertising, publicity, contests, promotional merchandise, sales promotions, packaging, and even personal appearances
3. **Sponsorship and type and Event evaluation.**
4. **Direct Marketing:** Basic concepts and importance of direct marketing in the changing marketing scenario, Tools of direct marketing, Strategic planning of direct marketing operations, Preparation of direct marketing, Direct marketing strategies, Control and evaluation of direct marketing.

Text Readings

1. S.S Gaur and S.V. Saggre (1997). **Event Marketing and Management,** Vikas Publishing House, New Delhi.

Suggested Readings

1. Mary Robert (1999). **Direct Marketing Management,** London:Prantice Hall, 2nd Edition.
2. Gordon Lewis (1995). **Direct Marketing Strategies and Tactics,** New Delhi, Vision Book.

MM 406 : MAJOR RESEARCH PROJECT/MARKETING DECISIONS

Objective

The objective of Major Research Project is to enable the student to go into the detail of the given problem and design an effective solution keeping the given constraints and organizational objectives in mind. This is to enhance the analytical and problem solving ability of the student.

Examination

Major Research Project will be optional with the Marketing Decisions Course. The Marketing Decisions Course will be a case based course for 90 marks and internal assessment of 10 marks. To differentiate this course from the Strategic Management, it will be taught through exhaustive cases of longer length. For allowing the students to opt for Major Research Projects, the University will constitute a Committee of the following members.

1. Dean, Faculty of Management Studies
2. Chairman, Board of Studies (Management)
3. Head of the Concerned Institution
4. One Professor nominated by the Hon'ble Vice Chancellor

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DEVI AHILYA VISHWAVIDYALAYA, INDORE

Curriculum

MBA (FINANCIAL ADMINISTRATION)
2 Yrs. Program of D.A.V.V., Indore

For

Affiliated Institution

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MBA(FA)-I Sem	MBA (FA)-II Sem
Indian Financial System	Relational Database Management System
Financial Accounting & Reporting	Service Marketing
Managerial Economics	Organizational Behaviour
Business Laws	Bank Management
Principles & Practice Of Management	Investment Management
Business Mathematics	Financial Management
Computers For Managers	Management Accounting
Statistical Analysis	Macro Economic Theory And Policy
MBA(FA)-IIIrd Sem	**MBA(FA) – IVth Sem**
Quantitative Technique	Tax Planning & Management
E-Commerce Technology	Financial & Indirect Tax Law
Human Resource Management	Multinational Financial Management
Derivatives & Risk Management	Strategic Financial Management
Insurance Management	Project Planning Appraisal & Control
Financial Services	Corporate Finance And Strategic Management
International Finance & Accounting	Decision Making Skill / Major Research Project
Portfolio Management	Comprehensive Viva Voce

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MBA(FA)-Ist Sem
BUSINESS LAWS

Course Objective

The objectives of this course are to acquaint the student with various laws, which are to be observed in performing the day-to-day business. Here the emphasis will be on the different latest provisions of the law and on how these can be used in the best interest of the organization without violating them rather than cases.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The University question paper will be of 90 marks. It will contain 8 questions out of which the student will be required to attempt any five questions.

Course Contents

1. The Indian Contract Act, 1872: Essentials of a valid contract, void and voidable agreements, Performance of contracts, Breach of a Contract and its remedies, Quasi-Contracts.
2. The Sale of Goods Act. 1930: Formation of a Sales Contract.
3. The Negotiable Instrument Act 1881: Nature and Types, Negotiation and Assignment, Holder in due course, Dishonor and Discharge and Negotiable Instruments.
4. The Companies Act 1956: Types of companies, Memorandum and Article of Association, Shareholders and Debenture holders, Minority Protection, Winding up.
5. Law of Insurance: Concept and guideline of marine, fire, life insurance policy.
6. Law of Intellectual Property
7. Consumer Protection Act: Consumer rights, exploitation of consumer, consumer protection, utility of consumerism,
8. I (D & R) Act: Regulation of scheduled industries, powers of IDRA, industrial licensing.
9. FEMA: Features, contravention and penalties, evaluation.
10. SEBI: Objective, powers and function, guidelines - for investor's protection, new issue and stock exchange.

Text Reading

1. Chawala and Garg, **Mercantile Law**, New Delhi, Kalyani Publications, 1999.
2. M.C. Shukla, **A Manual of Mercantile Law**, New Delhi, S. Chand & Co. Ltd., 1999.
3. S.K. Mishra and V.K. Puri, **Economic Environment of Business**, New Delhi, Himalaya Publishing House, 2000.
4. Francis Cherunilam, **Business Environment**, New Delhi, Himalaya Publishing House, 8th Ed., 1999.

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MBA(FA)-I[st] Sem

PRINCIPLES & PRACTICE OF MANAGEMENT

Course Objectives

Objectives of this course are to help the students gain understanding of the functions and responsibilities of the manager, provide them tools and techniques to be used in the performance of managerial job, and enable them to analyze and understand the environment of the organization.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections A and B. Section A, worth 60 marks will consist of five theory questions, out of which students will be required to attempt any three questions, and Section B will comprise of one or more case(s), worth 20 marks.

Course Contents

1. Concept of Management: Functions and Responsibilities of Managers, Fayol's Principles of Management, Management Thought; the Classical School, the Human Relations School, Systems theory, Contingency Management, Developing Excellent Managers.
2. Planning: Nature and Purpose of Planning, the Planning Process, Principles of Planning, Types of Planning, Advantages and Limitations of Planning.
3. Concept and Nature of Objectives: Types of Objectives, Importance of Objectives, Setting objectives, Management by Objectives (MBO) Benefits and weaknesses of MBO.
4. Strategies and Policies: Concept of Corporate Strategy, formulation of Strategy, Types of Strategies, the Strategic Planning Process, the TOWS Matrix, the Portfolio Matrix, Three Generic Competitive strategies by Porter, Effective Implementation of Strategies, Types of Policies, Principles of formulation of Policies, Decision Making Process, individual Decision Making Models.
5. Organizing: Nature and Purpose of Organizing, Bases of Departmentation, Span of Management, Determinants of Span of Management, Line and Staff Relationship, Line-Staff Conflict, Bases of Delegation, Kinds of Delegation, Delegation and Decentralization, Methods of Decentralization.
6. Controlling: Concept and Process of Control, Control Techniques, Human Aspects of Control, Control as a feedback system, Feedforward Control, Preventive Control, Profit and Loss Control, Control through Return on investment, the Use of Computer for Controlling and Decision Making, the Challenges created by IT as a Control Tool.

Text Readings

1. Harold Koontz, O'Donnell and HeinzWeihrich, "**Essentials of Management**", New Delhi, Tata McGraw Hill, 1992.
2. R. D. Agrawal, "**Organization and Management**", New Delhi, Tata McGraw Hill, 1995.

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Suggested Readings

1. Harold Koontz, HeinzWeihrich, "**Management: A Global Perspective**", New Delhi, Tata McGraw Hill, 10th Ed., 1994.
2. Robert Krietner, "**Management**", Houghton Miffin Co., 7th Ed., 1999.

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MBA(FA)-II[nd] Sem
SERVICE MARKETING

Course Objective
The objectives of the course are to expose students to the nature of industrial and service markets and develop abilities to help them apply marketing concepts in these markets.

Examination
The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The Semester Examination, carrying 90 marks will have two Sections, A and B. Section A, worth 66 marks, will have five theory questions, out of which students will be required to attempt three questions. Section B, worth 24 marks, will have one or more cases.

Course Contents

1. Services: Service Sector and Economic Growth, Service Concept, Characteristics and Classification of Service, Challenges in Service Marketing.
2. Designing a Service Strategy: Service Management Process; Internal, External and Interactive marketing strategies
3. Marketing Mix in Services Marketing: Product, Price, Place, Promotion, People, Physical Evidences and Process Decisions.
4. Strategic Issues in Service Marketing: Segmentation, Differentiation and Positioning of Services.
5. Managing Service quality and Productivity: Concept, Dimensions and process; service quality models (Gronnos and Parsuraman) Application and Limitations, Productivity in Services.
6. Creating and Delivering Services Planning design development and delivery of services Product support services.
7. Relationship Marketing: Concept processes and importance.
8. Applications of Service Marketing: Marketing of Financial, Hospitality, Health, Educational and Professional Services, Marketing for Non-Profit Organizations and NGOs.

Text Readings

1. Christopher H. Lovelock, "**Services Marketing**", New Delhi: Prentice Hall of India, 3[rd] Edn., 1996.
2. Ravi Shankar, "**Services Marketing**", New Delhi, Global Press, 2[nd] Edn. 1998.
3. V. A. Zeithamal and M. J. Bitner, "**Service Marketing: Integrating Customer Across the Firm**", McGraw Hill, 2002.
4. Service Marketing, Helen woodraffe, Macmillan India Ltd., New Delhi.

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MBA(FA)-II[nd] Sem
ORGANIZATIONAL BEHAVIOUR

Course Objectives

Objective of this course is to help students to understand human Behaviour in organizations so that they improve their managerial effectiveness.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The semester examination will be worth 90 marks. It will have two sections A and B. Section A, worth 60 marks will consist of five theory questions, out of which students will be required to attempt three questions. Section B will comprise one or more case(s) worth 20 marks.

Course Contents

Foundations of Individual and Organizational Behaviour: OB Models, Personality—Determinants and Attributes, Values, Job Attitudes, Learning and Learning Theories; Perception- Factors affecting Perception and Cognitive Dissonance theory.

Motivation: Needs, Contents and Processes; Maslow's Hierarchy of Needs, Herzberg's Two Factor theory, ERG theory, Vroom's Expectancy theory, Reinforcement theory and Behaviour Modification.

Foundations of Group Behaviour: Defining and Classifying Groups, Group Structure and Processes, Process of Group formation, Group Decision Making, Group v/s Team, Team Effectiveness, and Decision Making.

Leadership: Trait theories, Behavioral theories-- Ohio State Studies, Michigan Studies, and Managerial Grid. Contingency theories-- Fiedler's Model, Hersey and Blanchard's Situational theory, Leader-Member Exchange theory, Path Goal theory, Charismatic Leadership.

Conflict: Intra-individual Conflict, Interpersonal Conflict, Intergroup Conflict, Organizational Conflict, Transitions in Conflict Thought, Functional versus Dysfunctional Conflict, Conflict Process, Conflict Management Techniques.

Organizational Change and Stress Management: forces of Change, Resistance to Change, and Lewin's Three-Step Model, Stress Management—Potential Sources, Consequences and Coping Strategies for Stress.

Text Reading

1. **"Organizational Behaviour** " M.N. Mishra, Vikas Publication, New Delhi-2002.
2. Stephen P. Robbins, **"Organizational Behaviour: Concepts, Controversies, and Applications"**, New Delhi, Prentice Hall, 9th Ed., 2000.
3. Fred Luthans, **"Organizational Behaviour"**, New York, McGraw Hill, 8th Edn., 1998.
4. Bill Scott, **"The Skills of Communications"**, Jaico Publications, Bombay 1995.

Suggested Reading

1. Upinder Dhar and Santosh Dhar, **"Case Method in Management Education: Text and illustrations"**, Excel, New Delhi, 2002.

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MBA(FA)-II[nd] Sem
BANK MANAGEMENT

Objectives

The Course aims at : developing understating about the various functions, operations and activities of Banking institutions; explain is how to apply the basic finance concepts to the management of banking institute; providing framework, rules, regulations for governing banking institution. Understanding how to make informed decisions about the riskiness and politial returns of different banking activities. Making aware of competitive opportunities that concide with changes and developing the strategic solutions and plans.

Examination

The faculty member will award marks out of a maximum of 10 marks for the interna performance of the student. The semester examination carrying 90 marks will have ent questions out of which students will be required to attempt any five questions. Total Marks = 10+90 = 100

Course in detail:

1. Overview of the Banking Industry and Regulation, Fundamental of change in Banking A case : GE Capital Services
2. Bank Organization & Regulation, Structure of Banking Industry & Organizational forms, Bank Regulations
3. Evaluating Bank Performance, Commercial bank Financial Statements Relationship between Income & Balance sheet statement, Return of Equity Model & Trade off, CAMELS Rating, Alternative Models of Bank Performance, Managing Non interest income and non interest expenses
4. Managing cost of Funds, Bank Capital and Liquidity, Managing Liabilities and cost of Funds, The effectiveness use of Capital, Lic1uidity planning and Managing cash asset
5. Credit Management, Credit Policies, Evaluating Loan Proposal, Evaluating Consumer Loans, Credit Analysis
6. Managing Investment Portfolio, Investment Portfolio and Policy Guidelines, Characteristics of various securities, Active Investment Strategies
7. Global Banking Activities, Global Banking Participants, University Banking
8. Bank's Merger Acquisition, Recent Travel, f-Tow do Mergers Add Value, Valuation Procedures, A case study.
9. e-Banking, Bank Technology overview, Bank Services on Computers, MBanking

Text Books:

1. Shekhar & Shekhar "Banking Theory and practice" , Vikas Publication (P) Ltd. New Delhi.
2. Bhole L.M., Financial Institutions and Market, 2 Editions, Tata McGraw Hill Publishing Co.Ltd., New Delhi, 1992.
3. Timothy W.Koch and MacDonald S. Scott, Bank Management, 4th Edn, The Dryden Press Harcourt College, Publishers.
4 Marilyn R. Seymann, managing Bank Technology, Toppan Company PTE, Singapore.
5. William T. Thornhill, Risk Management for Financial Institutions, Bankers Publishing Company, Illionis.

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MBA(FA)-II[nd] Sem
INVESTMENT MANAGEMENT

Evaluation Scheme: -

External 9O Marks
Internal 10 Marks

Objectives

This Course is an in-depth study of tools & Techniques of investment analysis Equity research

Examination
The semester examination will be worth 9O marks. It will have two sections A and B Section A worth 66 marks will consist of five theory questions. Out of which students will be required to attempt three questions and Section B will comprise of one or more cases, worth 24 marks.

COURSE CONTENTS

Introduction to Investment theory : Investment, Economics of investment traditional modern theory, development of investment, history:
Securities & Markets : Government bounds, corporate fixed income securities, corporate stock, options warrants, forwards & futures, shares of investment coup. & mutual funds, rnortgage securities, primary & secondary market, organized exchange for various instruments, over the counter exchange, computerized trading technique, speculating, hedging & arbitrage
Valuation of securities a) Common Stock dividends Vs earnings, Constant growth model Multistage, growth model, PIE rtio study. b) Bond valuation PV model & bond valuation Valuing risk-less bond's YTM, module's duration (MD), Interest rate elasticity & risk.
Taxes on Investment Strategy: Tax structure, Income taxed, Capital gain & Losses, Computing After-tax return locked in effect, Dividend clienteles, Effect n dividend on expected stock return, expected return on taxed & Tax exempt securities.
Index: Preparation of an index, Basis of changes in index,. Various important indices done.
EIC Frame work : Economic analysis, key economic indicators, economic forecasting, risk measurement & rating, sectional analysis, international lateral comparison. Company analy5is ,Performance & prospects, Preparing equity research reports, ratio analysis involved, ESP & PE conflict.
Technical Analysis Dow Theory', bar-charts, point figure charts, confidence index, relative strength analysis charting volume of trading data moving overage analysis, designing technical tools.
Modeling: Financial modeling in developing market, investor, behavior & financial modeling.
Global portfolio Management: Risk-return in international investing global asset allocation, chaos theory and capital market.

BOOKS RECOMMENDED

1. Security Analysis & Portfolio Management Jordan & Fisher PH 1
2. Modem Investment Theory Robert A Haugen, PH 1
3. Investment &'Securities Markets in India VA Avadhani, Himalayas Investments Tackelack Francis, Tatarnegrawhill
1. Investment : Ftbozzi, PHI
2. Economic Modeling

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MBA(FA)-III[rd] Sem
E-COMMERCE TECHNOLOGY

Course Objective
The objective of this course is to help students to understand the basics of Electronic Business, Electronic Commerce, and related issues.

Examination
The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. 70+20+10 = Total Marks.

Course Contents

1. E-Business: Fundamentals, E-Business framework, E-Business application, Network Infrastructure for E-Business.
2. Mobile and Wireless computing fundamentals: Mobile computing, framework, wireless technology and switching method, mobile information access device, mobile computing application.
3. Handling money on the net: type of E-payment, digital token–based e-payment, smart card, credit card payment systems, risk on e-payment, designing e-payment
4. Inter-organization Business: EDI application in business, EDI: legal, security, standardization and EDI, EDI software implementation, VANs (value added net work) Internet based EDI
5. Electronic market place of buyers and sellers: Consumer and business markets: ordering on-line, Advertisement and marketing on Internet, Offering customer product on the net, electronics customers support.
6. Web–catalogues, business care for documents library, type of digital documents, documents infrastructure, data warehouses, multi-media and digital video.
7. E-Business standard, Cyber laws, Cyber crimes & frauds, types and tools of hacking.
8. Security and Electronic-Business: Client–server security, data and message security, document security, firewalls.
9. Future of Electronic-Business: Virtual Factory, Strategies for Electronic Business, Making Money on net, Web portals concepts, supply chain management, HTML/DTML.

Text Readings

1. Ravi Kalakotta & Whinston B., **"Frontiers of E-Commerce"**, Addison-Wesley, New Delhi, 2000
2. R. Kalakotta & M. Robinson, **"E-Business: Roadmap for Success"**, Addison-Werley, New Delhi, 2000

Suggested Readings

1. Daniel Amor, **"The E-Business (R) Evolution"**, Prentice Hall, PTR, New Delhi, 2000
2. Parag Diwan and Sunil Sharma, **"E-Commerce"**, Excel Books, New Delhi, 2000
3. Reynolds, **"Beginning of E-Commerce"**, Shroff Publication, 2000

Kamlesh K. Bajaj & Debjani Nag, **"E-Commerce"**, Tata McGraw, New Delhi

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MBA(FA)-III[rd] Sem
HUMAN RESOURCE MANAGEMENT

Course Objectives

The objectives of this course are to help the students develop an understanding of the dimensions of the management of human resources, with particular reference to HRM policies and practices in India. Attention will also be paid to help them develop their communication and decision making skills through case discussions, role-plays etc.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The Semester examination will be worth 90 marks. It will have two sections, A and B. Section A, worth 66 marks, will contain five theory questions out of which students will be required to attempt three questions. Section B will comprise of one or more case(s), worth 24 marks.

Course Contents:

1. The Field of HRM: An Overview, Concept and Functions, Personnel to HRM, ASTD HRM Model.
2. Acquisition of Human Resources: Objectives, Policies and Process of Human Resource Planning, Human Resource Planning in Evolving Small and Entrepreneurial Organization, Job Analysis, Job Description, Job Specification, Job Design (Nature of Job Design, Job Characteristics, Reengineering Jobs, Using Teams in Jobs ,Advantages and Disadvantages of Team Jobs, Consequences of Job Design), Recruitment,, Promotion and Transfer.
3. The Human Resource Organization, Structure of Human Resource Management, Role and Responsibilities of the Human Resource Selection, induction, Placement Department (Administrative, Operational and Strategic Role of HR).
4. Human Resource Policies: formulation and Essentials of Sound HR Policies.
5. Development of Human Resources: Learning, Training and Development, Evaluation of Training and Performance Appraisal (Appraising individual and Team Performance), introduction to Career and Succession Planning.
6. Maintenance of Human Resources: Job Evaluation, Designing and Administering the Wage and Salary Structure, Compensation, Grievance Handling Procedure.
7. Separation Processes: Turnover, Retirement, Layoff, Retrenchment and Discharge, VRS (Mechanism of VRS, VRS in Public Sector and Private Sector), Rehabilitation of Surplus Employees.
8. Emerging Trends and Challenges in HRM: Economic & Technological Change, Work force Availability and Quality, Enhancing Organizational Performance, Expanding Human Capital, Ethics and HRM, HR Management Competencies and Careers – Knowledge of Business Organizations and Organization Culture, influence and Change Management, Specific HR Knowledge and Expertise.

Text Readings

1. Michael Armstrong, **"A Handbook of Human Resource Practice"**, London, Kogan Page, 8th Edn., 2001.
2. David S. Decenzo and Stephen P. Robbins, **"Personnel/Human Resource Management"**, New Delhi, Prentice Hall, 3rd Edn., 1988.
3. Robert L. Mathis and John H. Jackson, **"Human Resource Management"**, 9th Edn., South Western College Publishing, 1995.

Suggested Readings

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1. William B. Werther Jr. and Keith Davis, **"Human Resources and Personnel Management"**, Singapore, McGraw Hill, 4th Edn. 1993.
2. Arun Monappa and Mirza S. Saiyadain, **"Personnel Management"**, New Delhi, Tata McGraw Hill, 1995.
3. P Subba Rao, **"Essentials of Human Resource Management and industrial Relations: Text, Cases and Games"**, Mumbai, Himalaya, 2000.
4. Biswajeet Patanayak, **"Human Resource Management"** New Delhi, Prentice Hall India, 2001.
5. Holloway J. Ed., **"Performance Measurement and Evaluations"**, New Delhi, Sage Publications, 1996
6. Guy V. & Mattock J., **"The New international Manager"**, London, Kogan Press, 1993.

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MBA(FA)-IIIrd Sem
INSURANCE MANAGEMENT

Course Objective

The objectives of this course are to explain to the student operations of upcoming insurance and banking sector, statutory requirements and understanding of financial environment and market in which they operate.

Examination

The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The Semester Examination will be worth 90 marks. It will have two Section, A and B. Section A, worth 66 marks will comprise of five theory questions out of which a student will be required to attempt any three questions. Section B, worth 24 marks will contain practical/numerical problem(s)/Case(s) that will be compulsory.

Course Contents

1. Insurance: Concept and significance of Insurance, Classification of Insurance – Life and Non life, General Principles of Insurance, Insurance Application and Acceptance Procedure, Insurance Terminology
2. Life Insurance: Principles, Products Term Insurance Endowment, Insurance, Pensions, Annuities, Claim Management, Premium Payment, Lapse & Revival, Premium Calculations, Concept of Mortality Tables, Assignment, Nomination, Loans, Surrenders, Foreclosure, Reinsurance, Underwriting, Analysis of Balance Sheet of Life Insurance Co.
3. General Insurance: Principles, Products Fire, Marine, Motor Vehicles, Public Liability, Third Party Insurance, Miscellaneous- Mediclaim and Health Policies, Group Insurance, Burglary Insurance, Analysis of Balance Sheet of a General Insurance Company.
4. IRDA: Functions and Importance, Recent Developments in Insurance. Company.

Text Readings

1. M.N. Mishra, **"Insurance-Principles & Practice"**, S. Chand & Co., 2001.

Suggested Reading

1. O.S.Gupta, **"Life Insurance"**, Special Reference to L.I.C.

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MBA(FA) – IVth Sem.
PROJECT PLANNING APPRAISAL & CONTROL

Objective: The objective of the study content is to create a working model of business & financial environment in a student, so that as a manager finance students can understand and handle dynamic business situations.

Examination
The faculty member will award marks out of a maximum of 10 marks for the internal performance of the student. The Semester Examination, carrying 90 marks.

Course Contents :
1. Course outline is project identification, planning & selection.
2. Market technical commercial and economic feasibility.
3. Preparing Project Reports, Financial Projections, estimating Costs.
4. Mathematical Programming techniques and project management.
5. Project financing, project appraisal by financial institutions.
6. Analysis of government projects, project time and cost overruns.
7. Networking techniques and Project Management and social cost benefit analysis.

Books Recommended :

1. Prasanna Chandra, Project Planning, Analysis Selection, Implementation and review, New Delhi, Tata Mcgraw Hill.
2. P. Gopalkrisnan & T. Ramamoorthy Text book of Project Management, New Delhi.
3. Hernold Kerzner, Project Management.

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Devi Ahilya Vishwavidyalaya, Indore

Syllabus

M.B.A (Full-Time) 2 Years Programme

Semester- I to IV

w.e.f. Academic year 2019-2020

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Devi Ahilya Vishwavidyalaya, Indore

Nomenclature and Course Outline

MBA (Full Time) 2 Years Programme

w.e.f. Academic year 2019-2020

First Year

MBA (Full-Time) First Semester

S. No.	Subject Code	Subject Name	Credit Hours	Cumulative Credit Hours
1	FT101C	PRINCIPLES AND PRACTICE OF MANAGEMENT	3	3
2	FT102C	QUANTITATIVE TECHNIQUES	3	6
3	FT103C	ACCOUNTING FOR MANAGERS	3	9
4	FT104C	IT & E-BUSINESS FUNDAMENTALS	3	12
5	FT105C	BUSINESS ENVIRONMENT	3	15
6	FT106C	ORGANIZATION BEHAVIOUR	3	18
7	FT107C	BUSINESS COMMUNICATION	3	21
8	FT108C	MANAGERIAL ECONOMICS	3	24
		TOTAL CREDITS FOR MBA I Sem.		24

MBA (Full-Time) Second Semester

S. No.	Subject Code	Subject Name	Credit Hours	Cumulative Credit Hours
1	FT201C	OPERATIONS RESEARCH	3	27
2	FT202C	OPERATIONS MANAGEMENT	3	30
3	FT203C	ENTREPRENEURSHIP	3	33
4	FT204C	FINANCIAL MANAGEMENT	3	36
5	FT205C	MARKETING MANAGEMENT	3	39
6	FT206C	HUMAN RESOURCE MANAGEMENT	3	42
7	FT207C	BUSINESS ETHICS AND INDIAN ETHOS IN MANAGEMENT	3	45
8	FT208C	BUSINESS RESEARCH METHODS	3	48
		TOTAL CREDITS FOR MBA I& II SEMESTER		48

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Second Year

MBA (Full-Time) Third Semester

Third Semester			
Subject code	Subject Name	Credit Hours	Cumulative Credit Hours
COMPULSORY SUBJECTS			
FT 301 C	SUPPLY CHAIN MANAGEMENT	3	51
FT 302 C	PROJECT MANAGEMENT	3	54

ELECTIVES COURSES (SELECT ANY TWO ELECTIVE GROUPS)			
ELECTIVE GROUP-I: MARKETING MANAGEMENT			
Subject code	Subject Name	Credit Hours	Cumulative Credit Hours
FT 303M	PRODUCT AND BRAND MANAGEMENT	3	
FT 304M	ADVERTISING AND DIGITAL MARKETING	3	
FT 305M	SALES AND DISTRIBUTION MANAGEMENT	3	
ELECTIVE GROUP -II: FINANCIAL MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 303F	TAX PLANNING AND MANAGEMENT	3	
FT 304F	INDIAN FINANCIAL SYSTEMS	3	
FT 305F	BANK AND INSURANCE MANAGEMENT	3	
ELECTIVE GROUP -III: HUMAN RESOURCE MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 303H	INDUSTRIAL RELATIONS AND LEGISLATIONS	3	
FT 304H	HUMAN RESOURCE DEVELOPMENT & AUDIT	3	
FT 305H	SOCIAL PSYCHOLOGY	3	
ELECTIVE GROUP -IV : INFORMATION TECHNOLOGY			
Subject code	Subject Name	Credit Hours	
FT 303I	WEB DESIGN AND TECHNOLOGY	3	
FT 304I	MANAGEMENT INFORMATION SYSTEM	3	
FT 305I	RDBMS USING ORACLE	3	
ELECTIVE GROUP -V: PRODUCTION AND OPERATIONS MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 303P	TECHNOLOGY MANAGEMENT	3	
FT 304P	PRODUCT INNOVATION AND OPERATIONS PLANNING	3	
FT 305P	PURCHASE AND MATERIAL MANAGEMENT	3	
ELECTIVE GROUP -VI: BUSINESS ANALYTICS			

Credits for core subjects up to III sem. : 54

Credits for Electives in III Sem.: 18

Credits for Internship/Field work/MRP: 04

Total Credits up to III Sem.: 76

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Subject code	Subject Name	Credit Hours	
FT 303B	INTRODUCTION TO BUSINESS ANALYTICS	3	
FT 304B	PREDICTIVE MODELING	3	
FT 305B	STATISTICAL PROGRAMMING IN 'R'	3	
FT 306	MRP/INTERNSHIP/FIELD WORK	4	

MBA (Full-Time) Fourth Semester

Fourth Semester			
Subject code	Subject Name	Credit Hours	Cumulative Credit Hours
COMPULSORY SUBJECTS			
FT 401C	BUSINESS LEGISLATION	3	57
FT 402C	STRATEGIC MANAGEMENT	3	60

ELECTIVES COURSES (SELECT ANY TWO ELECTIVE GROUPS)

ELECTIVE GROUP -I: MARKETING MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 403M	INTERNATIONAL MARKETING	3	
FT 404M	SERVICE AND RETAIL MARKETING	3	
FT 405M	CONSUMER BEHAVIOR AND RURAL MARKETING	3	
ELECTIVE GROUP -II: FINANCIAL MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 403F	INTERNATIONAL FINANCE	3	
FT 404F	FINANCIAL DERIVATIVES AND RISK MANAGEMENT	3	
FT 405F	INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT	3	
ELECTIVE GROUP -III: HUMAN RESOURCE MANAGEMENT			
Subject code	Subject Name	Credit Hours	
FT 403H	COMPENSATION MANAGEMENT	3	
FT 404H	TRAINING AND DEVELOPMENT	3	
FT 405H	ORGANISATION DEVELOPMENT	3	
ELECTIVE GROUP -IV : INFORMATION TECHNOLOGY			
Subject code	Subject Name	Credit Hours	
FT 403I	OPERATING SYSTEM & AND THEIR UTILITIES	3	
FT 404I	PHP PROGRAMMING AND JAVA SCRIPTS	3	
FT 405I	MOBILE COMPUTING AND ITS APPLICATIONS	3	
ELECTIVE-V: PRODUCTION AND OPERATIONS			

Credits for core subjects up to IV sem. : 60

Credits for Electives in IV sem.: 18

Credits for Comp. VIVA: 04
Total Credits up to IV Sem.: 104

w.e.f Academic Year 2018-19

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Subject code	Subject Name	Credit Hours	
FT 403P	LOGISTICS MANAGEMENT	3	
FT 404P	TOTAL QUALITY MANAGEMENT	3	
FT 405P	ENTERPRISE RESOURCE PLANNING	3	
ELECTIVE-VI: BUSINESS ANALYTICS			
Subject code	**Subject Name**	**Credit Hours**	
FT 403B	DATA VISUALISATION FOR MANAGERS	3	
FT 404B	SPREAD SHEET MODELING	3	
FT 405B	APPLICATIONS OF MODELING IN BUSINESS	3	
FT 406	COMPREHENSIVE VIVA-VOCE	4	
		Total Credits: 104	

Total Credits:

(1) For Core (Compulsory Subjects):	60
(2) For Elective Courses:	36
(3) For MRP/ INTERNSHIP/ FIELD WORK :	04
(4) For COMPREHENSIVE VIVA-VOCE:	04
Grand total	**104**

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FT-101 C PRINCIPLES AND PRACTICE OF MANAGEMENT

COURSE OBJECTIVE

The course is aimed at delivering an insight in to the field of management. The course aims at explaining various concepts of management and contemporary management practices, highlighting the functions and responsibilities of the manager, making the students aware about professional challenges faced by the managers and acquainting the students with the tools and techniques that are used for handling the challenges of managerial jobs along with an understanding of the work environment.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination. There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluation will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After studying the course, the students would be able to gain:

CO 1. Understanding of various management concepts functions and practices .
CO 2. Understanding of the role of managers .
CO 3. Learn about integrating management practices in work environment.
CO 4. Enhance their decision-making through the use of analytical skills of management

COURSE CONTENTS

UNIT I

Concept of Management Concept and Nature of Management, Functions and Responsibilities of Managers, Management Thoughts Fayol, Taylor & Weber's Contribution to Management, The Classical School, the Human Relations School, Systems Theory, Contingency Management, Developing Excellent Managers

UNIT II

Planning and Concept of Objectives Nature and Purpose of Planning, The Planning Process, Principles of Planning, Types of Planning, Advantages and Limitations of Planning. Objectives (Nature and Types), MBO (Process, benefits and limitations)

UNIT III

Strategies and Policies Strategic Planning (Concept, Types and Process) and its Models

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(TOWS Matrix, Porter's Generic Competency Model), Forecasting, Decision Making Nature, Types & Scope of Managerial decision Making process, Models of decision making, Policy and its types, Principles of policy formulation.

UNIT IV

Organizing Nature and Purpose of Organizing, Bases of Departmentation, Span of Management, Determinants of Span of Management, Line and Staff Relationship, Line-Staff Conflict, Bases of Delegation, Kinds of Delegation and Decentralization, Methods of Decentralization.

UNIT V

Directing and Staffing Concept, Importance and Elements of Directing, Direction Process, Principles of effective direction, Leadership. Staffing Concept, Importance and Steps, Knowledge Worker .

UNIT VI

Controlling Concept and Process of Control, Control Techniques, Human Aspects of Control, Control as a Feedback System, Feed Forward Control, Preventive Control, Profit and Loss Control, Control Through Return on Investment, The Use of Computer for Controlling and Decision Making, The Challenges Created by IT as a Control Tool.

UNIT VII

Contemporary Management Issues and its Challenges Cross cultural issues in management-Diversity and the new work force, Organization ethics and social responsibility, New ways of managing the workforce-Neuromanaging, Globalization and its complexity, Service economy, Management communication and technology, Knowledge management and knowledge economy.

TEXT READINGS

1. Essentials of Management –Horold Koontz, O'Donnell and Heinz Weihrich, New Delhi, Tata McGraw Hill,Latest Edition.
2. Organization and ManagementR.D. Agrawal., New Delhi. Tata McGraw Hill,Latest Edition.
3. Principles and Practices of Management - Dr. T.N. Chhabra ,Delhi Dhanpat Rai & Co. Latest Edition

SUGGESTED READINGS

1. Management. A Global Perspective - Horold Koontz, Heinz Weihrich, New Delhi Tata McGraw hill. Latest Edition
2. Management - Stephen Robbins. New Delhi Pearson, Latest Edition
3. Principles of Management - Richard L Daft, India.New Delhi :Cengage Learning. Latest Edition

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4. Management Theory and Practice - P. Subba Rao,MumBai: Himalya Publication House Pvt. Ltd, Latest Edition.
5. Management - Robert Krietner. Houghton Miffin CO. Latest Edition.

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FT-105 C BUSINESS ENVIRONMENT

COURSE OBJECTIVES

The course is aimed at delivering an insight into the field of business and environment surrounding it through the following objectives:

- To familiarize the students with the business environment prevailing in India and in the world to help them understand its implications to business.
- To acquaint the students with the emerging issues in business at National and International Level in the light of new economic policies.
- In today's dynamic world it is mandatory to have primary knowledge of the immediate environment in which business is conducted.
- With the dawn of liberalization, privatization and globalization it has become very important to get an insight in the work paradigms and international trade bodies which are updated time to time.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After studying Business Environment Course, the students would be able to:

CO 1 Enable the understanding of business and environment as one and separate entities.
CO 2 Learn about different theories, approach style, modes of entry, various government initiatives and International bodies for Practical implication in the Indian context
CO 3 In depth knowledge of economic policies, and changes made to them and reforms since independence
CO 4 Integrate business environment principles and strategies into business practices (domestic and international) for growth and sustainability of economic environment

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COURSE CONTENTS

UNIT I

Business Environment: Concept, Significance and Nature of Business Environment; Elements of Environment -Internal and External, Type of Environment (Economic, Socio-Cultural, Political, Legal & Technological), Changing Dimensions of Business Environment, Problems and Challenges of Indian Business Environment.

UNIT II

Economic Planning & Development: Economic Environment: Nature of Economy, Structure of the Economy, Economic Conditions, Problems & Challenges of Indian Economy and Suggestions, NITI (National Institution for Transforming India)Aayog-Objectives and Strategy, Rural Development Efforts, NGO Sector in India ,Current Economic trends in India

UNIT III

Indian Financial System: Monetary and Fiscal Policy, Economic Planning with reference to last 3 Plans, Industrial Policy, Foreign Trade Policy, RBI, SEBI, Banks Reform, Inflation, Relevant Case Study.

UNIT IV

India & The World: Liberalization, Privatization ,Disinvestment & Globalization-Concept & Impact on India ,India's Export and Import ,EXIM Policy, Foreign Direct Investment in India -its impact on Indian economy.

UNIT V

International Trade: Balance of Payment-Concept, Disequilibrium in BOP, Methods of Corrections ,Trade Barriers and Trade Strategy: Free Trade vs. Protection, World Financial Environment. Foreign Exchange Market Mechanism, Exchange Rate Determination, and Euro Currency.

UNIT VI

Strategies for going Global: International Economic Integration, Country Evaluation and Selection, Foreign Market Entry Method, International Trading Blocks, Their Objectives, WTO Origin, Objectives, Organization Structure and Functioning, WTO and India, Impact of WTO and Indian Business

UNIT VII

Multinational Corporations: Meaning and Dimensions, Globalization Stages, Foreign Market Entry Strategies, Pros and Cons of Globalization of Indian Business

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TEXT READINGS

1. Essentials of Business Environment – Latest edition, K Aswathapa, Himalaya Publishing House, Mumbai.
2. Indian Economy – Latest edition, S. K. Misra V. K. Puri, Himalaya Publishing House, Mumbai.
3. Business Environment – Latest edition, Francis Cherunilum, Himalaya Publishing house
4. D.N. Dwivedi, Managerial Economics, Vikas Publishing House, Latest Edition.

SUGGESTED READINGS

1. Justin Paul, **Business Environment: Text & Cases**, New Delhi, Tata McGraw Hill, Latest Edition.
2. Govt. of India, Latest Economic Survey.

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FT-106C ORGANIZATION BEHAVIOUR

COURSE OBJECTIVES

The Objective of this course is to help students to understand human behaviour in organizations so that they improve their managerial effectiveness.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examinations.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks. The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After the completion of the course the students should be able to:

CO1. Demonstrate an understanding of key terms, theories/ concepts and practices within the field of OB.

CO2. Demonstrate competence in development and problem solving in the area of management.

CO3. Analyze the key issues related to administrating the human elements such as Perception, Learning, Motivation, Leadership, Team Building and others

CO4. Know the meaning of terminology and tools used in managing employees effectively

COURSE CONTENTS

UNIT I

Foundations of Individual Behaviour: The organization and the individual. Personality Determinants and Attributes. Attitudes. Learning and Learning Theories. Perception. OB models

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UNIT II

Motivation: Definition and concept, theories of motivation- Maslow's Hierarchy of Needs, Herzberg's Two Factor theory, ERG theory, Vroom's Expectancy theory, Equity theory, Reinforcement theory and Behaviour Modification

UNIT III

Foundations of Group Behaviour and Conflict Management and Negotiation: Defining and Classifying Groups, stages of group development, Group Structure, Group Processes, Group Dynamics, Group v/s Team, Team Effectiveness. Group and Intergroup Relations

Transitions in Conflict Thought, Functional versus Dysfunctional Conflict, Conflict Process, Conflict Management Techniques, Negotiation Process, Bargaining Strategies

UNIT IV

Emotional Intelligence and Leadership :Nature and Significance of leadership, leadership in different cultures, leadership theories and Styles' Trait theories, Behavioural theories, Ohio State Studies, Michigan Studies, and Managerial Grid Contingency theories-- Fiedler's Model, Hersey and Blanchard's Situational theory, Path Goal theory, Recent Development in Leadership Theory.

Emotional intelligence: Framework of Emotional Intelligence, EI implications for an individual and managerial effectiveness.

UNIT V

Organizational Culture and Organizational Change: Concept, Relationship of Culture with organizational behaviour, Levels of organizational culture, Analyzing, managing and changing organizational culture, Implications for managers at national and global level. Forces for Change, Resistance to Change. Approaches to managing organizational change

UNIT VI

Time Management and Stress Management: Stress, Work Stress and its Management, Concept of Time Management, Barriers to Effective Time Management, Tools and Techniques for Effective Time Management

TEXT READINGS

1. Stephen P. Robbins, Timothy A Judge, Seema Sanghi "Organizational Behaviour", Pearson Education, Latest Edition
2. Nelson, Organisational Behaviour, Cengage Learning, India, Latest Edition
3. R. S. Dwivedi, "Human Relations and Organizational Behaviour. A Global Perspective", MacmillanLatest Edition
4. Jerald Greenberg and Robert A Baron, Behaviour in Organisations, PHI Learning, Latest Edition.

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5. Hitt, Millar, Colella, Organizational Behaviour A Strategic Approach, Wiley India, Latest Edition.

SUGGESTED READINGS

1. Fred Luthans, "Organizational Behaviour", New York, McGraw Hill, Latest Edition.
2. UdaiPareek, Understanding OrganzationalBehavior, Oxford Higher Education, Latest Edition.
3. John W. Newstrom and Keith Davis, "Organizational Behaviour: Human Behaviour at Work" New Delhi, Tata McGraw Hill, Latest Edition.
4. Jai B P Sinha, Culture and Organizational Behaviour, Sage Publication, Latest Edition.
5. Kavita Singh Organizational Behaviour Text and Cases, New Delhi, Pearson Education, Latest Edition.
6. M.N. Mishra, Organizational Behaviour, Vikas Publishing House, Reprint, Latest Edition.

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FT-203C ENTREPRENEURSHIP

COURSE OBJECTIVES

The objective of this course is to exhibit knowledge of fundamentals of entrepreneurship, application of tools & techniques to setup an entrepreneurial venture.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination. There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1 Understanding the basics of Entrepreneurship and real life issues therein.

CO2. Apply Theoretical concepts into practice while facing business problems.

CO3. Contribute in Developing Reasoning and Analytical ability to foster Decision Making

CO4. Nurture Entrepreneur Skills and Leadership Abilities.

COURSE CONTENTS

UNIT I

Fundamentals of Entrepreneurship: Define Entrepreneurial Traits & Entrepreneurship. Entrepreneur Decision Making Process, Role of Entrepreneurship in the Economy. Concept of Start-ups. Forms of Ownership. Women Entrepreneur & Challenges

UNIT II

Planning and Organizing Entrepreneurial Venture: Process of Planning Entrepreneurial Venture. Organizing Business Research Tools and Techniques to know the feasibility of Venture. Life Cycle of Venture, Growth and Challenges. Problem Solving Approaches and ways of financing new venture

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UNIT III

Creating a Business Plan: Define the elements of a business plan, Create a basic business plan, Recognize and describe the role marketing plays in business (Digital Media), Explain a marketing plan, Explain the considerations in the purchasing cycle, Launching Formalities

UNIT IV

New venture Expansion & Exit Strategies: Expansion Strategies: Understanding joint ventures, acquisitions, merger, franchising. **Exit Strategies:** Introduction, Reasons for existing and long-term preparation, short-term preparation.

UNIT V

Institutional support to Entrepreneurship: EDP Movement in India,Institutional Support System, Centre for Entrepreneurship Development (CED), National Institute for Entrepreneurship and Small Business Development (NIES BUD), Institutes for Entrepreneurship Development (IED), Science and Technology Entrepreneurship Parks (STEPs), National Alliance of Young Entrepreneurs (NAYE), Technical Consultancy Organisations (TCOs), National Small Industry Corporation (NSIC), Industrial Development Bank of India (IDBI), Industrial Finance Corporation of India (IFCI), Industrial Credit and Investment Corporation of India (ICICI), Rural Development and Self Employment Training Institute (RUDSETI), Rural Development and Human Development Training programmes, Technology Transfer programmes.

UNIT VI

Start-Up Funding & Strategies for future: Funding Alternatives for Start-up,Venture Capital System for Start-up, Designing Funding Strategy, What Investors Look For in a Pitch Funding, Current Funding Option available in global Market

UNIT VII

Risk Management & Regulatory Global Concerns: Risk Avenues for entrepreneurs & Strategies for Risk Management, Discuss Different types of regulations that apply to businesses. Understanding legal& Ethical responsibilities of entrepreneurs, Identify key concepts and relationships in a business environment, Describe business considerations when entering the global market, Recognize and describe the value of cultural differences in local and global business.

TEXT READINGS

1. Charanthimath. Entrepreneurship development small business enterprises. Pearson education, Latest Edition
2. Kuratko&Hodgetts. Entrepreneurship in The New Millennium. Cengage learning, Latest Edition.
3. Vasant Desai: Small scale Industries and Entrepreneurship, Himalaya Publishing House, Latest Edition.
4. David H Holt Entrepreneurship. New Venture Creation. PHI , Latest Edition.
5. Rajeev Roy, Entrepreneurship. Oxford University press. Latest Edition

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SUGGESTED READINGS

1. Greene, Entrepreneurship, Cengage learning, Latest Edition.
2. B. K. Mohanty Fundamentals of Entrepreneurship PHI, Latest Edition.
3. Barringer, Entrepreneurship Pearson education, Latest Edition.
4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Latest Edition.
5. Desai Vasant, Dynamics of Entrepreneurship Development and Management, HimalayaPublishing House, Latest Edition.
6. Coulter, Entrepreneurship in Action, PHI Learning, Latest Edition.
7. AlpanaTrehan, Entrepreneurship , Wiley India Pvt. Limited, Latest Edition.
8. The Lean Startup, Eric Ries, Latest Edition.
9. Business Model Generation :AHandbook for Visionaries, Game Changers, and Challengers,byAlexander Osterwalder and Yves Pigneur, Latest Edition.

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FT-205C MARKETING MANAGEMENT

COURSE OBJECTIVES

The objective of this course is to provide the students exposure to modern marketing concepts, tools, and techniques, and help them develop abilities and skills required for the performance of marketing functions.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Understand the dynamics of marketing in business

CO2. Relate marketing theories to practical situation

CO3. Develop unique marketing mix

CO4. Construct sales plan and professional interactive presentation

COURSE CONTENTS

UNIT I

Marketing Concepts: Concept, Nature, scope and importance of marketing. Marketing concept and Philosophies, building and delivering customer value and satisfaction, retaining customers. Value Chain; Scanning the Marketing Environment - macro and micro components and their impact on marketing decisions. Marketing Mix Elements, Difference

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between marketing and Selling. Introduction to digital marketing. Emerging Trends in Marketing: Multi Level Marketing, CRM, Green Marketing, Event Marketing, Rural Marketing, Global Marketing, Marketing for Non Profit Organizations.

UNIT II

Market Segmentation-Targeting-Positioning and Consumer Behavior: Market Segmentations, Levels of Market Segmentations, Patterns, Procedures, Requirement for Effective Segmentation, Evaluating the Market Segments, Selecting the Market Segments, Tool for Competitive Differentiation, Developing a Positioning Strategy, Analyzing consumer markets & buyer behavior, factors affecting consumer behavior, types of buying decision behavior.

UNIT III

Product Decision: Concept of product, Product Classification, product mix and product line decisions, Product Life Cycle Strategies, Product Diffusion Process, Equity, Repositioning, Branding, Packaging, and Introduction of Labeling. New Product Development Process

UNIT IV

Pricing Decision: Concept of Pricing, Pricing Objectives, Factors affecting price determination, significance of pricing decisions, Pricing Methods and Strategies, Pricing policies and strategies; Discounts and rebates

UNIT V

Distribution Decisions: Functions and types of Distribution Channel, Design of Distribution Channel, channel management decisions, channel dynamics- VMS, HMS, MMS, whole selling retailing, e-tailing.

UNIT VI

Promotion Decisions: Effective Communication, Integrated Marketing Communication, Marketing Communication Process, Promotion mix - Advertising, Personal Selling, Sales Promotion and Publicity and Public Relations, Direct Marketing

UNIT VII

Marketing Strategies for Leaders, Challenges, Followers and Nichers : Analyzing competitors–competitive forces, Identifying competitive strategies, industry concept of competition, devising the market strategies for market leaders, market challengers, market followers and market niches

TEXT READINGS

1. Kotler, Keller, Koshy, Jha. Marketing Management : A South Asian Perspective. Pearson, Latest Edition.
2. Kurtz, Principles of Marketing, Cengage Learning, India, Latest Edition

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3. S. Neelamegham, Marketing In India, Vikas publishing house, Latest Edition.
4. Biplo Bose, Marketing Management, Himalaya Publishing House, Latest Edition
5. Paul Baines, Chris Fill, Kelly Page, Marketing, Oxford University Press, Latest Edition.
6. Winner Marketing Management, Latest Edition.

SUGGESTED READINGS

1. William L. Pride and O.C. Ferrell, Marketing Concepts and Strategies, Boston, Houghton Mifflin Co., Latest Edition.
2. Czinkota and Kotabe ,Marketing Management, , Cengage Learning, India , Latest Edition.
3. West, Ford, Ibrahim, Strategic Marketing, Oxford University, Latest Edition
4. Evans, Marketing Management Cengage Learning, India , Latest Edition

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FT -207 C BUSINESS ETHICS & INDIAN ETHOS IN MANAGEMENT

COURSE OBJECTIVES

The objective of this course is to help students gain an understanding of Business Ethics and application of Indian values in managerial decision-making.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able

CO1. Understand the relevance of Indian Ethos for further enrichment of holistic leadership principles and practices.

CO2. Understand application of several important concepts and frameworks for moral reasoning to complex business issues

CO3. Apply ethics to business, management, and decision making

CO4. Provide insights to participants for developing leadership that is socially, environmentally and culturally responsible

COURSE CONTENTS

PART – I BUSINESS ETHICS

UNIT I

The Nature and Purpose of Ethical Reflections Introduction, Definition of Ethics, Moral Behaviour, Characteristics of Moral Standards. Business Ethics Mediating between Moral Demands and Interest, Relative Autonomy of Business Morality, Studies in Business Ethics. Role of Ethics in Business, Theory of Voluntary Mediation, Participatory Ethics. Duty ethics in the Business Environment. Theories of Virtue

Case Study: Trade in Human Organs

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UNIT II

Moral Respensibility: Introduction; Balanced Concept of Freedom, Individual Responsibility, Implications related to Modern Issues, Public Accountability and Entrepreneurial Responsibility, Moral Corporate Excellence.

Case Study: Satyam is not really Satyam

Discussion on cases related to unethical Practices in Industry (For instance Nirav Modi, Vijay Mallaya, etc)

UNIT III

Corporate Responsibility: Business Ethics and Individual Interest: Interest based Outlook, Impact of Interest on Moral Goals and Moral Principles, Utilitarian Views on Business Ethics, Enlightened Egoism.

PART - II INDIAN ETHOS IN MANAGEMENT

UNIT IV

Management, Culture and Ethos - Role and Significance of Ethos in Managerial Practices, Management is Culture Bound, Sources of Indian Ethos in Management Vedas, Shastras, Smrities, Puranas, Upnishads, Ramayan, Mahabharat, Arthashastra, Ramcharitamanas, Panchatantra, Hitopdesh, Guru Granth Sahib, Teachings of Buddha and Mahaveer, the Holy Bible, the Holy Quran etc. – examples and models from the above texts, Human Behaviour – Indian Thoughts, Guna Theory, Sanskara Theory.

Case Study: The Whistleblower

Discussion on characters of Ramayana, Mahabharata Learnings and quotes of GurunanakDev , Buddha , Mahavir , Inspirational Stories from Indian Mythology.

UNIT V

Karma Theory: Nishkama Karma Yoga and Professionalism, Personal and Managerial Effectiveness in Indian Thoughts - Management of the Self Management of Body, Thoughts and Emotions; Interpersonal and Group Effectiveness

Case Study: Jet Airways

Discussion on stories from Panchtantra, Hitopdesh

UNIT VI

Cultural Heritage of India and its relevance for Modern Management Concept of 'Pancha - Rina' (five- fold debt) and Corporate Social Responsibility: Four fold Life Goals (Purusharth Chatushtheya) and Business, Sanskara Values Vs Skills Supremacy of Values over Skills, Role Vs. Self, Work Place Spirituality

Case Study: East India Company,Discussions on Teachings from Bhagwad Geeta

UNIT VII

Productive Practices and Team Motivation, Prospects of Virtues in Business Ethics and Management Theory, Models of Leadership and Motivation in Indian Thoughts Examples from Scriptures

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TEXT READINGS

1. A.C Fernando, **Business Ethics: An Indian Perspective**, Pearson, Latest Edition.
2. Weiss, **Business Ethics concept & cases**, Cengage Learning, Latest Edition.
3. Velasquez, **Business Ethics,Concepts& Cases**, PHI, Latest Edition.
4. Murthy, **Business Ethics**, Himalaya Publishing House, Latest Edition
5. Al Gini, **Case Studies in Business Ethics**,Pearson Education. Latest Edition
6. Ronald D Francis , Mukti Mishra , **Business Ethics : An Indian Perspective**,The Tata McGraw Hill Companies, Latest Edition.

SUGGESTED READINGS

1. Shashtri J.L., **Ancient Indian Traditions and Mythology** ,1stedi, MotilalBanarsidas, NewDelhi, Latest Edition.
2. F. Max Muller ,**Sacred Books of East** ,MotilalBanarsidas, New Delhi, Latest Edition.
3. S.K. Chakraborty, **Ethics in Management-Vedantic Approach**, New Delhi, Oxford India Ltd., Latest Edition.
4. Swami Jitatmananda, **Indian Ethos for Management**, Rajkot, Ramakrishna Ashrama, Latest Edition
5. Swami Someswarananada, **Indian Wisdom for Management**, Ahmedabad, AMA. Latest Edition
6. Swami Rangnathananda, **Universal Message of the Bhagvad Gita**, Calcuna AdvaitaAshrama, Latest Edition.

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FT-301C SUPPLY CHAIN MANAGEMENT

COURSE OBJECTIVES

This course would help students develop an understanding about the strategic role of supply chain, key issues of supply chain and the drivers of supply chain performance. The course would acquaint the students with various concepts, models and decision making tools pertaining to supply chain network design, forecasting, inventory, transportation etc. and also enable them to apply the tools in real-life situation.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination. There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical) **Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.**

COURSE OUTCOMES

After completion of the course the students should be able

CO1. To understand the distribution of goods and services by logistics management.

CO2. To demonstrate the complexity of inter-firm and intra-firm coordination .

CO3. To understand decisions involving the investment in productive resources, configuration of processes, product designs, and development of partnerships with suppliers and channels of distribution .

CO4. To use analytical tools and conceptual frameworks to make decisions in supply chain contexts as well as a better understanding of the major strategic issues and trade-offs that arise in supply chain management

COURSE CONTENTS

UNIT I

Concept of Logistics. Introduction, Objectives of logistics. Types of logistics, Concept of Logistics Management, Evolution of Logistics, Difference between Logistics and Supply Chain Management, Third party and fourth party logistics, Logistics and Competitive Advantage, Logistics Mix

UNIT II

Concepts and importance of a Supply Chain (SC): Evolution of Supply Chain Management (SCM),Key issues of Supply Chain Management, Competitive and SC strategies, Achieving strategic fit

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UNIT III

Dynamics of supply chain: Supply Chain Interventions, Push-based, Pull-based and Push-Pull based supply chain. Network design and Operations in the Supply Chain.

UNIT IV

Inventory Management & Demand Forecasting in a Supply Chain: Basic and Advanced inventory models. Multi-echelon inventory models . The value of information, Demand Forecasting Methods, Bullwhip effect, its Causes and remedial measures .

UNIT V

Transportation and Strategic Outsourcing in SC environment: Design options for a transportation network, Concept of Outsourcing, Selection of Supply Chain service provider.

UNIT VI

Retailer- Supplier partnerships (RSP), Supplier evaluation and selection. Use of best practices.

UNIT VII

Information Technology (IT) in Supply Chain Management: SC performance model: SCOR model, Application of Information Technology in Logistics and Supply Chain Management.

TEXT READINGS

1. Logistics & Supply Chain Management- Raghoramay, MacMillan India Ltd, Latest Edition
2. Logistics Management-Donal J. Bowersok, Tata McGraw Hill Publication,Latest Edition.
3. Gopalakrishnan Purchasing and Materials Management, TMH, Latest Edition
4. UpendraKachru Exploring the Supply Chain,Excel Books, Latest Edition.
5. Agrawal Supply Chain Management Text and Cases, Macmillan Publishers, Latest Edition
6. Janat Shah Supply Chain Management, Pearson Education, Latest Edition
7. Badi N.V Supply Chain Management,Vrinda Publications, Latest Edition.

SUGGESTED READINGS

1. Simchi Levi Designing and Managing the Supply Chain, TMH, Latest Edition
2. Raghuram Logistic and Supply chain Management, Macmillan Publishers, Latest Edition
3. Shapiro, Modelling the Supply Chain, New Delhi Cengagel.eaming,LatestEdition Latest Edition
4. Webster Principles & Tools for Supply Chain Management, McGraw Hill, Latest Edition
5. Sunil Chopra Supply Chain Management Strategy, Planning and Operation. Pearson,Latest Edition

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FT-304M ADVERTISING AND DIGITAL MARKETING

COURSE OBJECTIVES

Designed for students planning to make a career in the field of Marketing . The course objective is to familiarize them with the world of media and advertising which has gradually emerged as an industry with reference to India. Effort has also been made to provide them with practical exposure to the field through illustrations, case studies, and exercises in various aspects of the craft of advertising and media planning.

EXAMINATIONSCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination. There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical).**Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.**

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Identify and respond to clients' advertising and marketing communications objectives by applying principles of communications.
CO2. Relate theoretical aspects of advertising on practical situation
CO3. Develop unique promotional and branding strategies.
CO4. Understand digital marketing, emerging trends in digital marketing and ethical issues in adopting globalized digital markets

COURSE CONTENTS

UNIT I

Advertising Management: Integrated Marketing Communication. Introduction of Advertising. Role of Advertising in Marketing Mix and Positioning. Advertisers and Advertising Agencies. Key Players in Advertising. Types of Advertising. Types of Media. Media Planning & strategy. Responsible Advertising.

UNIT II

Advertising Objectives and Communication Process: Marketing Objectives. Advertising Objectives, Sales-oriented Behavioral objectives. Communication-oriented objectives. The

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DAGMAR Approach to Setting Objectives and Measuring, Advertising Effectiveness; Kinds of Advertising Objectives; The Advertising Communication System, the communication process, The advertising exposure model, Need for Clear Understanding of Objectives.

UNIT III

Advertising Design: Appeals, Message Strategies &Execution Framework: Advertising Design, Structure of an Advertisement, Message Strategies, Cognitive strategies, Creating an Advertising, Meaning and Definition of Copywriting, Copywriting for various Media.

UNIT IV

Digital Marketing Overview: Introduction to Digital Marketing, Understanding digital Marketing Process, Trends that are driving shifts from traditional marketing to digital marketing practices, marketing strategies for the digital world

UNIT V

Types & Strategies of Digital Marketing: Search marketing, Mobile marketing, and Video marketing, online campaign management; overview of search engine optimization (SEO), SEM. Macro Environmental Analysis and strategy formulation, Internet Marketing Plans

UNIT VI

Internet and the Marketing Mix Channels: E-tailing, B2B e-marketing. Online Relationship Marketing: E-CRM. Permission Marketing: Models and applications New Product development and the Net: Innovations and rapid New Product development Traffic and Brand Building: Battle for Web Traffic, Internet Marketing Communications - Publicity and Viral Marketing.

UNIT VII

Online Tools for Marketing Engagement marketing through Content Management: Online campaign management using Face book, Twitter, Corporate Blogs - Sentiment Mining - Measuring Campaign effectiveness –ROI in Digital Marketing, Google Analytics, Market influence Analytics in a Digital ecosystem - The contemporary digital Revolution-/ Online communities and co-creation ,Gamification and Apps .

TEXT READINGS

1. Seema Gupta, Digital Marketing. McGraw Hill Education (India) Private Limited, Limited Edition.
2. VandanaAhuja. 'Digital Marketing' Oxford University Press. Latest Edition
3. Aaker, David A..Batra. Rajiv, Myers. John G Advertising Management, New Age International Publishers. latest Edition.

SUGGESTED READINGS

1. Thomas J. KueglerJr. Web Advertising and Marketing. Prentice Hall of India Private Limited Latest Edition.
2. S.A.Chunawalla & K.C Sethia. Foundations of Advertising Theory & Practice. HimalayaPublishing. Latest Edition

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FT-303H INDUSTRIAL RELATIONS AND LEGISLATIONS

COURSE OBJECTIVES

Industrial Relations play an important role in organizations. Organisational efficiency and performance are intricately interlinked with industrial relations. This course will expose students to the conceptual and practical aspects of industrial relations at the macro and micro levels.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to.

CO1. Acquaint with industrial relations framework in our country

CO2. Know the importance of the maintenance of industrial peace and efforts to reduce the incidence of strike and lockout

CO3. Critically examine the provisions in the various industrial Disputes Act, for the prevention and settlement of industrial disputes

CO4. Learn underlying the disciplinary enquiry for misconduct are to understood in view of acquaint misconduct and procedure to be followed before imposing punishment for misconduct alleged and established

COURSE CONTENT

UNIT-I

Introduction: Overview of Industrial Relations - Historical perspective and post independence period, Scope, objectives, importance and factors affecting IR and its participants. Approaches to Industrial relations, Code of Discipline; Government policies relating to labor, ILO and its influence on Legal Enactments in India

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UNIT-II

Collective Bargaining & Negotiation: Collective Bargaining: Concept, essential conditions for the success of collective bargaining, functions, importance, process, and prerequisites for collective bargaining, implementation and administration of agreements. Negotiations-Types of Negotiations-Problem solving attitude, Techniques of negotiation, negotiation process, essential skills for negotiation, Workers Participation in Management

UNIT-III

Trade Union: Trade Unions: Meaning, Trade Union Movement in India, The role of the Trade Unions in Modern Industrial Society of India, functions of Trade Unions, objectives and importance of Trade Unions, The Trade Union Act, 1926, Procedure for registration of Trade Union, Grounds for the withdrawal and cancellation of registration, Union Structure, Rights and Responsibilities, Penalties for offences of trade unions, Difference between a Registered and a Recognised Trade Union, Problems of Trade Unions, Future Trends of Trade Union Movement in India.

UNIT-IV

Grievance procedure and Discipline management : Grievance – Overview, sources, approaches to grievance machinery, Grievance procedures, and model grievance procedure Discipline - Causes of Indiscipline - Maintenance of discipline. Principles of Natural Justice, Judicial approach to discipline, Domestic enquiries, Disciplinary procedures, approaches to manage discipline in Industry, Principles of Hot stove rule.

UNIT-V

Industrial Conflicts: Industrial conflict Perspectives, Nature of conflicts and its manifestations causes and types of Industrial conflicts, Prevention of Industrial conflicts, Industrial disputes act of 1947, Settlement Machinery of Industrial disputes Paradigm shift from industrial relations to employee relations - Shift in focus, difference, employee relations management at work, culture and employee relations, future of employee relations.

UNIT-VI

Industrial Legislation

Factories Act, 1948,Maternity Benefit Act, 1961, Contract Labour Act, 1970, Child Labour (Prohibition & Regulation) Act, 1986, Industrial Employment Act, 1946, Industrial Employment (Standing orders) Act, 1946, Employees' State Insurance (ESI) Act, 1948,Employee Compensation Act, 2013

TEXT READINGS

1. Sen Industrial Relation in India , Macmillan Publishers, Latest Edition
2. Sinha-Industrial Relations, Trade Unions, and Labour Legislation, Pearson , Latest Edition
3. B D Singh, Industrial Relations and Labour Laws, Excel Books ,Latest Edition
4. Monappa, Arun - Industrial Relations, TMH, Latest Edition
5. Taxmann's, Labour Laws, Taxmann, Latest Edition

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SUGGESTED READINGS

1. Dundon, T & Dorek. R , Employment Relations in Non-Union Firms. New York Routledge , Latest Edition.
2. Joseph. J. Indlustrial Relations Towards a Theory of Negotiator Connectedness New Delhi: Response Books, Latest Edition.
3. Kaufman, B. (Ed.). The Global Evolution ot Industrial Relations: Events and the IIRA. Geneva: International Labour Office, Latest Edition.
4. Kelly. E. J, Industrial Relations: Critical Perspectives on Business and management, London: Routlodgo , Latest Edition.
5. Venkata Ratnam. C. S. Industrial Relations. New Delhi: Oxford University Press, Latest Edition.

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FT-304H HUMAN RESOURCE DEVELOPMENT & AUDIT

COURSE OBJECTIVES

The objective of the Human Resource Development Course is to provide the students with a clear understanding of the concepts, processes, practices and strategies that form the basis of successful HRD in organizations. The course is intended to facilitate the development of knowledge and skills that HRD specialists need in performing their strategic role. The course strives to facilitate the understanding of how concepts and theories can be put into practice in a variety of organizations. The content of the course is also designed to familiarize students with the role of line managers and HR specialists in HRD.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able

CO1. To make the students aware of the various concepts, process and practices of HRD in the present Corporate world.

CO2. To enable the students to work as a catalyst who can enhance cordial work relations in an organization.

CO3. To understand the concept of work-life balance along with their career advancement.

CO4. To develop a holistic approach towards culturally diverse employees

COURSE CONTENTS

UNIT I

HRD Concepts. Concept, Evolution, HRM & HRD Functions, Challenges & Goals of HRD

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UNIT II
HRD Professionals: Roles and Competencies, Competency Mapping of Employees.

UNIT III
HRD Mechanisms: Emerging trends.

UNIT IV
Career Management and Development: Work-Life Integration, Performance Management System.

UNIT V
Applications of HRD: HRD Climate, HRD Climate and organizational change, HRD for Workers (blue collar employees) .

UNIT VI
HRD Audit: Meaning and Concept, Need, Designing HRD Audit Process, Parameters to be Audited, Audit Results, Preventive and Corrective Actions, Role in Business Improvement, Methodology and Limitations.

TEXT READINGS

1. Kandula, Strategic Human Resource Development, PHI Learning, Latest Edition.
2. French, Bell - Organizational Development and Transformation , TMH, Latest Edition
3. R Krishnaveni, Human Resource Development Excel Books, Latest Edition
4. Kalyani Mohanty Human Resource Development & Organisational Effectiveness, Excel Books, Latest Edition.
5. Dessler- Human Resource Management, Pearson, Latest Edition.
6. Mankin. D. Human Resource Development New Delhi, Oxford Univ Press. Latest Edition.

SUGGESTED READINGS

1. Kozlowski. S. W. J. &Slas. E, (Ed). Learning, Training, and Development in Organisations. New York: Routledge, Latest Edition.
2. Agarwala T. Strategic Human Resource Management, Oxford University Press; Rao T V . HRD Audit New Delhi: Response Books, Latest Edition.
3. Som. A Organization Redesign and Innovative HRM . New Delhi: Oxford University Press Wumor J.M.t & DeSimono, R L Human Resource Development Foundation Framework & Application . Cengage Learning. Latest Edition.

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FT-305H SOCIAL PSYCHOLOGY

COURSE OBJECTIVES

The objective of the Social Psychology Course is to impart knowledge of the basic concepts and modern trends in Social Psychology, to foster interest in Social Psychology as a field of study and research and to make the students aware of the applications of the various concepts in Social Psychology in the Indian context.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Initiate understanding of Human Behaviour Concepts at work place .

CO2. Enhance creative application of Social Psyche Fundamentals to analyze work efficiency of employees.

CO3. Help realize significance of Non Verbal Communication in organization.

CO4. Educate and make young minds realize the significance of safety management in organization.

COURSE CONTENTS

UNIT I

The Field of Social Psychology:

a) Social Psychology: what it is and what it does?

b) Social Psychology: its cutting edge

c) A brief look at history: the origins and early development of Social Psychology

UNIT II

Social Cognition:

a) Schemas: Mental Frameworks for Organizing and Using Social Information

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b) Potential Sources of Error in Social Cognition

UNIT III

Social Perception:

a) Nonverbal Communication: The unspoken Language of Expressions Gazes and Gestures
b) Attribution: Understanding the Causes of others Behaviour
c) Impression Formation and Impression Management

UNIT IV

Attitude Formation:

a) How Attitudes Develop
b) When and why do Attitudes influence behaviour?
c) How do attitudes guide behaviour?
d) The Fine Art of Persuasion: how Attitudes are changed"?
e) Resisting Persuasion attempts
f) Cognitive Dissonance: What it is and how we manage it?

UNIT V

The Self:

a) Personal and Social Identity
b) Self Esteem
c) Self Presentation and Self Regulation

UNIT VI

Social Influence:

a) Conformity: Group Influence in Action
b) Compliance. To Ask – Sometimes - Is to Receive
c) Symbolic social influence: how we are influenced by others even when they are not there
d) Obedience to Authority
e) The Prevention and Control of Violence: Some Useful Techniques

UNIT VII

Employment testing:

a) Testing Abilities
b) Testing Personality
c) Testing Skills & Achievement
d) Interview Techniques

TEXT READINGS

1. Baron, R. A., Branscombe, N. R., & Byrne, D. Bhardwaj, G, Latest Edition.
2. Social Psychology New Delhi Pearson Education. Indian subcontinent adaptation, Latest Edition.

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SUGGESTED READINGS

1. Aronson, E., Wilson, T. D., & Akert, R. M. Social Psychology, New Jersey: Pearson Education prentice Hall , Latest Edition .
2. Baumeister, R. F., & Bushman, B. J. Social Psychology and Human Nature. International student edition, Thomson Wadsworth USA, Latest Edition .
3. Delamater, J. D., & Myers, D. J. Social Psychology, Thomson Wadsworth International student edition, USA , Latest Edition .
4. Franzoi, S. L. Social Psychology, New York McGraw Hill co, Latest Edition .
5. Kenrick, D. T., Newberg, S. L., & Cialdini, R. B. Social Psychology: Goals in Interacton. Pearson Education Allyn and Bacon, Boston, Latest Edition .
6. Taylor, S. E., Peplau, L. A., & Sears, D. O. Social Psychology, New Delhi: Pearson Education, Latest Edition .

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FT-401C BUSINESS LEGISLATION

COURSE OBJECTIVES

The objective of this course is to acquaint the students with the knowledge of the legal framework which influences the functioning of business. Here the emphasis is to develop an understanding among the students of the significant provisions of selected business laws and help them acquire the ability to address basic application-oriented issues.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination. There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical).

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Understand the legal system, in which a business functions,

CO2. Develop an understanding of relationship of various laws and economic activities, application of business laws in business activities.

CO3. Develop an understanding of application of business laws in business activities.

CO4. Develop a sense of ethical viewpoint towards business laws and legislation in conduct of economic activities

COURSE CONTENTS

UNIT I

The Indian Contract Act, 1872: General Principles of Contract. Nature and classification of contract. Essential elements of a Valid Contract. Offer and Acceptance. Void and Voidable Agreements. Performance of Contracts. Discharge of Contracts. Breach of a Contract and Its Remedies. Contingent and Quasi-Contracts. Contracts of Indemnity and guarantee. Contract of Bailment. Contract of Agency. Contract of Pledge. Difference between Pledge, Hypothecation, and Mortgage.

UNIT II

The Sale of Goods Act 1930: Formation and Essentials of a Sales Contract, Conditions and Warranties. Transfer of ownership and delivery of goods.

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Duties of Seller and Buyer, Unpaid seller and his rights, Remedies for B of a Sale Contract.

UNIT III

The Negotiable Instrument Act, 1881: General Principles, Meanin J Definition of Negotiable Instruments, Nature and Types, Negotiation and Assi nt, Ambiguous Instruments, Holder in due Course, Dishonor and Discharge of a Negoti Instruments.

UNIT IV

The Companies Act, 2013: Meaning, Definition and Essential featu f a Joint Stock company, Types of Companies, Difference between a private and l ltd. Company, Promotion and Incorporation of a company, Corporate Veil theory, Men dum and Article of Association, Doctrine of Constructive Notice and Indoor Manage of Companies, Capital of the Company, Meetings of the companies- General Principles Types, Minority Protection, Winding-up and Dissolution of Companies.

UNIT V

Consumer Protection Act: Key terms and their definition, Consum hts, Legislative framework on Consumer Protection in India, Remedies and Relief avail consumers. **Law of Partnership: Meaning and Essential Features of Partnershi** ential Elements of Partnership, Formation of Partnership and Types of Partners, Rights, s and Liabilities of Partners, Dissolution of Partnership.

UNIT VI

Overview of Recent Business Laws I- The Limited Liability Partnersl , 2008, Foreign Exchange Management Act, 1999, The Competition Act, 2002.

UNIT VII

Overview of Recent Business Laws II- Information Technology 000, Important Provisions relating to Intellectual Property.

TEXT READINGS

1. Avtar Singh, Mercantile Law, Eastern Book Company, Latest Editio
2. Chandra Bose, Business Laws, PHI, Latest Edition. Latest Edition.
3. Bulchandani, Business Law for Management, Himalaya Publishing l
4. Kumar, Legal Aspect of Business,Cengage Learning, Latest Edition
5. Taxman's General and Commercial Laws,Latest Edition t Edition
6. M.C. KuchhalVivekKuchhalBusinessLaw,Vikas Publishing House nited
7. Satish B Mathur Business Law, McGraw Hill Education (India) Priv LatestEdition

SUGGESTED READINGS

1. Mazumdar, A.K. and Kapoor, G.K., Company Law and Practice, T , Rohini Aggrawal, Latest Edition
2. Mercantile & Commercial Law, Taxmann, Latest Edition o the above
3. M.C. Kuchhal,Business Law,Vikas Publishing House , Bare acts n laws, Latest Edition.

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FT-403M INTERNATIONAL MARKETING

COURSE OBJECTIVES

The objective of this course is to help the student to gain an understanding of concepts of International Marketing, types of international markets, demand and supply position in international markets, import-export documentation, policies and procedures of foreign trade.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Apply basic international marketing theories and concepts to understand the environment.

CO2. Understand international environment in order to develop appropriate international marketing objectives and strategies.

CO3. Develop unique international marketing plans.

CO4. Design and implement effective rural marketing strategies after understanding consumer behavior.

COURSE CONTENTS

UNIT I

International Marketing Nature, importance and scope of international marketing. International marketing management process Basis of International Trade, International trade theories. Difference between Domestic, International, Multinational, Global Markets. EPRG Frame work . Influence of economic, socio - cultural political legal and technological environments on international marketing decisions

w.e.f. Academic year 20[illegible]-[illegible]

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UNIT II

Factors Affecting International Trade: Screening and selection of market, international market entry methods, and types of Regional agreements, role of IMF and WTO in international trade, salient features of foreign trade policy.

UNIT III

Process and formalities: Export Procedure, documentation and custom clearance, Export incentives and institutional support for export promotion in India

UNIT IV

Product: Identifying new products, international product planning, product design, labeling, packaging, branding, product elimination, adoption and diffusion of new products, major product decisions-product features and quality, managing product line; product standardization vs adaptation, International trade product life cycle.

UNIT V

Pricing Strategies: Factors Affecting International Pricing strategy, Methods of Pricing, Pricing an International Product, Transfer Pricing, Exchange Rates and its Impact on Pricing, High Sea Pricing, counter trade as a pricing tool, international dumping

UNIT VI

Distribution System for International Markets: Direct and Indirect Channels, Factors Affecting International Channel, International Channel Management, Wholesaling and Retailing

UNIT VII

Promoting Products / Services in Overseas Markets: Perspectives of International Advertising, Standardization v/s Localization, Global Media Decisions, Global Advertising Regulations, and industry self-regulation, international marketing through internet, ecological concerns and international marketing ethics

TEXT READINGS

1. Cateora Phillip, International Marketing (SIE), McGraw Hill, Latest Edition
2. Czinkota, International Marketing, Cengage Learning , Latest Edition
3. Gillespie International Marketing South-Western, Latest Edition.
4. Kotabe, International Marketing. An Asia Pacific Focus, Wiley India, Latest Edition
5. Onkvisit & Shaw, International Marketing, PHI Learning, Latest Edition
6. Faveweather , John International Marketing, Prentice Hall, New Delhi, Latest Edition
7. Jain, S.C. International Marketing. Prentice Hall, New Delhi, Latest Edition
8. Keegan, Warren J Global Marketing, Management, Prentice Hall, New Delhi, Latest Edition
9. Paliwoda, Staley J. The Essence of International Marketing, Prentice Hall, New Delhi, Latest Edition.
10. Sirachy, R and V Terpstra. International Marketing, Dryden Press, Boston, Latest Edition

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11. Varshney and Bhattacharya: International Marketing Management, Latest Edition.

SUGGESTED READINGS

1. Francis Cherunilam International Marketing, Himalaya Pub. House, Latest Edition.
2. Paul, Justin, International Marketing , Latest Edition.

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FT-405 M CONSUMER BEHAVIOR AND RURAL MARKETING

COURSE OBJECTIVES

The objectives of this course are to help students gain an understanding of various aspects of Consumer Behavior and their applications & rural marketing as an integral part of marketing management, and developed an understanding of rural marketing.

EXAMINATION SCHEME

Student shall be evaluated on two components: 20 internal and 80 end semester examination.

There will be 20 marks for internal evaluation, three internal evaluations will be conducted out of which two will be written test and third will be assignment/ presentation/quiz/ class participation. Best two out of 3 evaluations will be considered as internal marks.

The semester examination carrying 80 marks will have two sections A and B. Section A worth 60 marks will have six theory questions out of which students will be required to attempt any four questions. Section B carrying 20 marks will contain one or more cases (or cases/practical)

Note: Relevant Case Studies (at least two cases per unit) will be discussed compulsorily.

COURSE OUTCOMES

After completion of the course the students should be able to:

CO1. Apply basic rural marketing theories and concepts of consumer behavior to understand the market.

CO2. Understand rural environment and consumer behavior in order to develop appropriate objectives and strategies

CO3. Develop unique rural marketing plans.

CO4. Design and implement effective rural marketing strategies after understanding consumer behavior

COURSE CONTENTS

UNIT I

Introduction to Consumer Behavior and Consumer Research. Nature, Scope and application of Consumer Behavior and Consumer Research

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UNIT II

Environmental Influence on Consumer Behavior : Culture, Cross cultural understanding, social class, family. Family life-cycle group and personal influence, word of mouth communication, opinion leadership. Future of consumer behavior .

UNIT III

Individual Determinants of Consumer Behavior. Demographics Psychographics- Consumer Delight, Understanding Consumer Psychology, Social Learning, Influence of Social Media on Consumer Behavior .

UNIT IV

Consumer Behavior Models, Nicosia Model, Howard Sheth Model, Engel Blackwell and Miniard Model, Sheth Family Decision Making Model.

UNIT V

Consumer Decision Processes: Pre-purchase process: Information processing, Purchase Processes: Consumer Decision rules. Post Purchase processes: Framework, dissonance satisfaction / dissatisfaction.

UNIT VI

Rural Marketing: Concept, importance and scope of rural marketing, Understanding rural market, rural environment, infrastructure and rural trade practices, rural consumer behaviour, factors affecting consumer behavior and psychology of rural customers towards product and price, Changing Environment of Rural Market with Modern Technology. Rural Marketing Information System

UNIT VII

Distribution & Promotion in the rural markets: Meaning, Types of rural channels, selection and management of channels, factors influencing channel decisions, retailing, transportation, warehousing, Promotion in Rural Markets: role of advertising, sales promotion, publicity, and personal selling in rural markets

TEXT READINGS

1. Leon G. Schiffman and Leslie Lazar Kanuk Consumer Behaviour (Pearson Education). Latest Edition
2. Suja R. Nair: Consumer Behaviour in Indian Perspective (Himalaya Publishing House). Latest Edition
3. P. Kashyap & S. Raut : Rural Marketing, Biztantra, Latest Edition
4. T.P. Gopal Swamy Rural Marketing, Vikas Publishing House, Latest Edition

SUGGESTED READINGS

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1. Assael, H. Consumer Behaviour and marketing Action, Ohio, South Western, Latest Edition.
2. Engle, J F etc Consumer Behaviour, Chicago, Dryden Press, Electives (Mktg), Latest Edition.
3. Howard, John A. Consumer Behaviour in marketing Englewood Cliffs, New Jersey, Prentice Hall Inc., Latest Edition.
4. Hawkins, D I etc. Consumer Behaviour Implications for Marketing Strategy . Texas, Business, Latest Edition.
5. Mowen, John C. Consumer Behaviour , New York, MacMillan, Latest Edition.
6. C G Krishnamacharyulu, L. Ramakrishnan: Rural Marketing, Pearson Education, Latest Edition.
7. Grewal Dhruv. Marketing . Mc Graw Hill Publication, Latest Edition

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