Sri Shridevi Charitable Trust (R.)
SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY
Sira Road, Tumkur - 572 106, Karnataka, India.
Phone: 0816 - 2212629 | Principal: 0816 - 2212627, 9686114899 | Telefax: 0816 - 2212628
Email: info@shrideviengineering.org, principal@shrideviengineering.org | Website: www.shrideviengineering.org
(Approved by AICTE, New Delhi, Recognised by Govt. of Karnataka and Affiliated to Visvesvaraya Technological University, Belagavi)

ESTD: 2002

CRITERION 1- CURRICULAR ASPECTS

Criteria 1.3

Curriculum Enrichment

CROSS-CUTTING ISSUES-SYLLABUS

PRINCIPAL
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Sri Shridevi Charitable Trust (R.)
SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY
(Recognised by Govt. of Karnataka, Affiliated to VTU, Belagavi and Approved by AICTE, New Delhi)
Sira Road, Tumakuru - 572 106. Karnataka.
FS 543667
An ISO 9001:2015 Certified Institution
Phone: 0816-2212629 | Fax: 0816-2212628 | Email: info@shrideviengineering.org | Web: http://www.shrideviengineering.org

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

PRINCIPAL

ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಭಾರತದ ಸಂವಿಧಾನದ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ
"ಜ್ಞಾನ ಸಂಗಮ", ಬೆಳಗಾವಿ-೫೯೦೦೧೮, ಕರ್ನಾಟಕ, ಭಾರತ

Visvesvaraya Technological University
(State University of Government of Karnataka Established as per the VTU Act, 1994)
"Jnana Sangama" Belagavi-590018, Karnataka, India
Phone: (0831) 2498100 Fax: (0831) 2405467, Website: vtu.ac.in

Dr. A. S. Deshpande B.E., M.Tech., Ph.D.
Registrar

Phone: (0831) 2498100
Fax: (0831) 2405467

Ref: VTU/BGM/BOS/SO2/2021-22 93

Date: 27 APR 2022

CIRCULAR

Subject Regarding the correct code of the course Constitution of India, Professional Ethics and Cyber Law regarding...

Reference query from stakeholders

This is concerning the subject cited above, there is a typographical error in the subject code for the subject "Constitution of India, Professional Ethics and Cyber Law" on the scheme page, however, it is correctly mentioned on the syllabus page of a few programs which are uploaded on VTU web portal.

To be read as

18CPC39/49 - Constitution of India, Professional Ethics and Cyber Law

In place of

18CPH39/49 - Constitution of India, Professional Ethics and Cyber Law

The Principals of all Engineering Colleges coming under the ambit of the University are hereby informed to bring this content of the circular to the notice of the students and faculty concerned

Sd/-
REGISTRAR

To,

1. The Principals of all Affiliated/Constituent /Autonomous Engineering Colleges and all Directors of Schools of Architecture under the ambit of VTU Belagavi.
2. The Chairpersons of all Departments, Centres for PG Studies in Belagavi, Kalbargi, Muddenahalli, and Mysore.

Copy to.

- The Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
- The Registrar (Evaluation), VTU Belagavi for information.
- The Regional Directors (I/c) of all the regional offices of VTU for circulation.
- The Director, SMU CNC ITI VTU Belagavi for information and request to upload the circular on the VTU website.

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B. E. Common to all Programmes
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code	18CPC39/49	CIE Marks	40
Teaching Hours/Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

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

CO 1: Have constitutional knowledge and legal literacy.

CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.

CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
- For the award of 40 CIE marks, refer the University regulations 2018.

Sl. No.	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction to the Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

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Scheme of Examination:
One question from Part A: 40 marks
One question from Part B: 40 Marks
Viva voce: 20 Marks
Total: 100 Marks

B. E. MECHANICAL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER - VIII

ENERGY ENGINEERING

Course Code	**18ME81**	CIE Marks	40
Teaching Hours /Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives:

- Understand energy scenario, energy sources and their utilization
- Learn about energy conversion methods
- Study the principles of renewable energy conversion systems.

Module-1

STEAM GENERATORS Coal and ash handling, Generation of steam using forced circulation, high and supercritical pressures, LaMount, Benson, Velox, Loeffer, Schmidt steam generators, Cooling towers and Ponds, Accessories such as Superheaters, De-superheater, Economizers, Air preheaters.

Module-2

Solar Energy: Introduction, Solar radiation at the earth's surface, Solar radiation measurements, Flat plate collectors, Focussing collectors, Solar pond, Solar electric power generation-Solar photovoltaics.
Biomass Energy: Photosynthesis, photosynthetic oxygen production, energy plantation. Bio Chemical Route: Biogas production from organic wastes by anaerobic fermentation, Bio gas plants-KVIC, Janta, Deenbhandu models, factors affecting bio gas generation. Thermal gasification of biomass, updraft and downdraft

Module-3

Geothermal Energy: Forms of geothermal energy, Dry steam, wet steam, hot dry rock and magmatic chamber systems.
Tidal Energy: Tidal power, Site selection, Single basin and double basin systems, Advantages and disadvantages of tidal energy.
Wind Energy: Wind energy-Advantages and limitations, wind velocity and wind power, Basic components of wind energy conversion systems, horizontal and vertical axis wind mills, coefficient of performance of a wind mill rotor, Applications of wind energy.

Module-4

Hydroelectric plants: Advantages & disadvantages of water power, Hydrographs and flow duration curves-numericals, Storage and pondage, General layout of hydel power plants- components such as Penstock, surge tanks, spill way and draft tube and their applications, pumped storage plants, Detailed classification of hydroelectric plants, water hammer.
Ocean Thermal Energy: Ocean thermal energy conversion, Principle and working of Rankine cycle, Problems associated with OTEC.

Module-5

NUCLEAR ENERGY Principles of release of nuclear energy-Fusion and fission reactions. Nuclear fuels used in the reactors, Chain reaction, Moderation, breeding, Multiplication and thermal utilization factors. General components of a nuclear reactor and materials, Brief description-Pressurized water reactor, Boiling water reactor, Sodium graphite reactor, Fast Breeder reactor, Homogeneous graphite reactor and gas cooled reactor, Radiation hazards, Shielding, Nuclear waste, Radioactive waste disposal.

Course Outcomes: At the end of the course the student will be able to:
CO1: Understand the construction and working of steam generators and their accessories.

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CO2: Identify renewable energy sources and their utilization.

CO3: Understand principles of energy conversion from alternate sources including wind, geothermal, ocean, biomass, nuclear, hydel and tidal.

Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Sl No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Power Plant Engineering	P. K. Nag	Tata McGraw Hill Education Private Limited, New Delhi	Third Edition, 2012.
2	Power Plant Engineering	Arora and Domkundwar	Dhanpat Rai & Co. (P) Ltd.	Sixth Edition, 2012.
3	Non-conventional Sources of Energy	G.D.Rai	Khanna Publishers, New Delhi	Fifth Edition, 2015.
4	Non-conventional energy resources	B H Khan	McGraw Hill Education	3rd Edition
Reference Books				
1	Power Plant Engineering	R. K. Rajput	Laxmi publication New Delhi	
2	Principles of Energy conversion	A. W. Culp Jr	McGraw Hill	1996
3	Power Plant Technology	M.M. EL-Wakil	McGraw Hill International	1994
4	Solar Energy: principles of Thermal Collection and Storage	S.P. Sukhatme	Tata McGraw-Hill	1984

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B. E. CIVIL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER - IV

WATER SUPPLY AND TREATMENT ENGINEERING

Course Code	**18CV46**	CIE Marks	40
Teaching Hours/Week(L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives: This course will enable students to

1. Analyze the variation of water demand and to estimate water requirement for a community.
2. Evaluate the sources and conveyance systems for raw and treated water.
3. Study drinking water quality standards and to illustrate qualitative analysis of water.
4. Design physical, chemical and biological treatment methods to ensure safe and potable water Supply.

Module -1

Introduction: Need for protected water supply. Demand of Water: Types of water demands -domestic demand, industrial, institutional and commercial, public use, fire demand estimation, factors affecting per capita demand, Variations in demand of water, Peak factor.

Design period and factors governing design period. Methods of population forecasting and numerical problems

Module -2

Water Treatment: Objectives, Unit flow diagrams – significance of each unit: Sources and Characteristics of surface and subsurface sources and Suitability. Sampling : Objectives, methods and preservation techniques. Drinking water quality standards as per BIS. Effect of water quality parameters.

Intake structures – types. Factors to be considered in selection of site for intake structures. Aeration process, limitations, types and two film theory.

Module -3

Sedimentation -theory, settling tanks, types and design. Coagulation and flocculation, Clarriflocculators (circular and rectangular). theory, types of coagulants, coagulant feeding devices. Jar test apparatus and estimation of coagulants.

Filtration: mechanism, theory of filtration, types of filters: slow sand, rapid sand and pressure filters. Operation, cleaning. Operational problems in filters. Design of slow and rapid sand filter without under drainage system

Module -4

Disinfection: Theory of disinfection. Methods of disinfection with merits and demerits. Chlorination: Break point chlorination and determination of chlorine demand. Estimation of quantity bleaching powder.

Miscellaneous treatment Process: Softening: Lime soda and Zeolite process. Estimation of Hardness. Fluoridation and De-fluoridation, Nalagonda Technique. RO and Nano filtration process with merits and demerits.

Module -5

Collection and Conveyance of water: Types of pumps with working principles and numerical Problems. Design of the economical diameter for the rising main.

Pipe appurtenances, Valves, Fire hydrants and different Pipe materials with their advantages and disadvantages. Factors affecting selection of pipe material.

Distribution system: Methods: Gravity, Pumping and Combined gravity and pumping system. Types of Distribution system. Service reservoirs and their capacity determination plant units and distribution system with population forecasting for the given city.

Course Outcomes: After studying this course, students will be able to:

1. Estimate average and peak water demand for a community.
2. Evaluate available sources of water, quantitatively and qualitatively and make appropriate choice for a community.
3. Evaluate water quality and environmental significance of various parameters and plan suitable treatment system.
4. Design a comprehensive water treatment and distribution system to purify and distribute water to the required quality standards.

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Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Textbooks:

1. Howard S. Peavy, Donald R. Rowe, George T , Environmental Engineering - McGraw Hill International Edition. New York,2000
2. S. K. Garg, Environmental Engineering vol-I, Water supply Engineering – M/s Khanna Publishers, New Delhi2010
3. B.C. Punmia and Ashok Jain, Environmental Engineering I-Water Supply Engineering, Laxmi Publications (P) Ltd., New Delhi2010.

Reference Books:

1. CPHEEO Manual on water supply and treatment engineering, Ministry of Urban Development, Government of India, New Delhi.
2. Mark.J Hammer, Water & Waste Water Technology, John Wiley & Sons Inc., New York,2008.

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B. E. MECHANICAL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER - V

MANAGEMENT AND ECONOMICS

Course Code	**18ME51**	CIE Marks	40
Teaching Hours/Week (L:T:P)	2:2:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives:

- To help the students to understand the fundamental concepts and principles of management; the basic roles, skills, functions of management, various organizational structures and basic knowledge of marketing.
- To impart knowledge, with respect to concepts, principles and practical applications of Economics, which govern the functioning of a firm/organization under different market conditions.

Module-1

Management: Introduction - Meaning - nature and characteristics of Management, Scope and Functional areas of management - Management as a science, art of profession - Management & Administration - Roles of Management, Levels of Management, Development of Management Thought- early management approaches – Modern management approaches. Planning: Nature, importance and purpose of planning process Objectives - Types of plans (Meaning Only) - Decision making Importance of planning - steps in planning & planning premises - Hierarchy of plans.

Module-2

Organizing and Staffing: Nature and purpose of organization Principles of organization - Types of organization - Departmentation Committees Centralization Vs Decentralization of authority and responsibility - Span of control - MBO and MBE (Meaning Only) Nature and importance of staffing--Process of Selection & Recruitment (in brief). Directing & Controlling: Meaning and nature of directing Leadership styles, Motivation Theories, Communication - Meaning and importance - coordination, meaning and importance and Techniques of Co Ordination. Meaning and steps in controlling - Essentials of a sound control system - Methods of establishing control (in brief).

Module-3

Introduction: Engineering and economics, Problem solving and decision making, Laws of demand and supply, Difference between Microeconomics & Macroeconomics, equilibrium between demand & supply, elasticity of demand, price elasticity, income elasticity. Law of Returns, Interest and interest factors, simple and compound interest, Cash flow diagrams, personal loans and EMI payment calculation with flexible interest rates, Discussion and problems.

Module-4

Present, future and annual worth and rate of returns: Basic present worth comparisons, Present worth-equivalence, Assets with unequal lives and infinites lives, future worth comparisons, payback comparisons, Equivalent annual worth comparisons, situations for annual worth comparisons. Asset life, Rate of return, minimum acceptable rate of return, IRR anomalies and misconceptions, Cost of capital, comparisons of all present future and annual worth with IRR, product costing, Discussions and problems.

Module-5

Costing and depreciation: Components of costs, estimation of selling price, marginal cost, first cost, all kinds of overheads, indirect cost estimation with depreciation, mensuration and estimation of material cost, cost estimation of mechanical process, idling time. Product costing (approaches to product costing), causes of depreciation, methods of computing depreciation charges, straight line method, declining balance method, sum of years method, sinking fund method, service output methods, taxation concepts, personal income taxes and corporate taxes, Discussions and problems.

Course outcomes: At the end of the course, the student will be able to:

CO1: Understand needs, functions, roles, scope and evolution of Management

CO2: Understand importance, purpose of Planning and hierarchy of planning and also54nalyse its types.

CO3: Discuss Decision making, Organizing, Staffing, Directing and Controlling.

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CO4: Select the best economic model from various available alternatives.
CO5: Understand various interest rate methods and implement the suitable one.
CO6: Estimate various depreciation values of commodities.
CO7: Prepare the project reports effectively.

Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Sl. No.	Title of the Book	Name of the Author/s	Name of the	Edition and Year
Textbook/s				
1	Mechanical estimation	T.R. Banga& S.C. Sharma	Khanna Publishers	17th edition
2	Engineering Economy	Riggs J.L	McGraw Hill	4th edition
3	Engineering Economy	Thuesen H.G	PHI	2002
4	Principles of Management	Tripathy and Reddy	Tata McGraw Hill	3rd edition 2006
Textbook/s				
1	Mechanical estimation	T.R. Banga& S.C. Sharma	Khanna Publishers	17th edition
2	Engineering Economy	Riggs J.L	McGraw Hill	4th edition
3	Engineering Economy	Thuesen H.G	PHI	2002
4	Principles of Management	Tripathy and Reddy	Tata McGraw Hill	3rd edition 2006

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B. E. ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE)
SEMESTER – VI

RENEWABLE ENERGY RESOURCES (OPEN ELECTIVE)

Course Code	18EE653	CIE Marks	40
Teaching Hours/Week (L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Course objectives:

- To discuss causes of energy scarcity and its solution, energy resources and availability of renewable energy.
- To explain sun – earth geometric relationship, Earth – Sun Angles and their Relationships.
- To discuss about solar energy reaching the Earth's surface and solar thermal energy applications.
- To discuss types of solar collectors, their configurations and their applications.
- To explain the components of a solar cell system, equivalent circuit of a solar cell, its characteristics and applications.
- To discus benefits of hydrogen energy, production of hydrogen energy, storage its advantages and disadvantages.
- To discuss wind turbines, wind resources, site selection for wind turbine.
- To discuss geothermal systems, their classification and geothermal based electric power generation
- To discuss waste recovery management systems, advantages and disadvantages.
- To discuss biomass production, types of biomass gasifiers, properties of producer gas.
- To discuss biogas, its composition, production, benefits.
- To discuss tidal energy resources, energy availability, power generation.
- To explain motion in the sea wave, power associated with sea wave and energy availability and the devices for harnessing wave energy.

Module-1

Introduction: Causes of Energy Scarcity, Solution to Energy Scarcity, Factors Affecting Energy Resource Development, Energy Resources and Classification, Renewable Energy – Worldwide Renewable Energy Availability, Renewable Energy in India.

Energy from Sun: Sun- earth Geometric Relationship, Layer of the Sun, Earth – Sun Angles and their Relationships, Solar Energy Reaching the Earth's Surface, Solar Thermal Energy Applications.

Module-2

Solar Thermal Energy Collectors: Types of Solar Collectors, Configurations of Certain Practical Solar Thermal Collectors, Material Aspects of Solar Collectors, Concentrating Collectors, Parabolic Dish – Stirling Engine System, Working of Stirling or Brayton Heat Engine, Solar Collector Systems into Building Services, Solar Water Heating Systems, Passive Solar Water Heating Systems, Applications of Solar Water Heating Systems, Active Solar Space Cooling, Solar Air Heating, Solar Dryers, Crop Drying, Space Cooing, Solar Cookers, Solar pond.

Solar Cells: Components of Solar Cell System, Elements of Silicon Solar Cell, Solar Cell materials, Practical Solar Cells, I – V Characteristics of Solar Cells, Efficiency of Solar Cells, Photovoltaic panels (series and parallel arrays).

Module-3

Hydrogen Energy: Benefits of Hydrogen Energy, Hydrogen Production Technologies, Hydrogen Energy Storage, Use of Hydrogen Energy, Advantages and Disadvantages of Hydrogen Energy, Problems Associated with Hydrogen Energy.

Wind Energy: Windmills, Wind Turbines, Wind Resources, Wind Turbine Site Selection.

Geothermal Energy: Geothermal Systems, Classifications, Geothermal Resource Utilization, Resource Exploration, Geothermal Based Electric Power Generation, Associated Problems, environmental Effects.

Solid waste and Agricultural Refuse: Waste is Wealth, Key Issues, Waste Recovery Management Scheme, Advantages and Disadvantages of Waste Recycling, Sources and Types of Waste, Recycling of Plastics.

Module-4

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Biomass Energy: Biomass Production, Energy Plantation, Biomass Gasification, Theory of Gasification, Gasifier and Their Classifications, Chemistry of Reaction Process in Gasification, Updraft, Downdraft and Cross-draft Gasifiers, Fluidized Bed Gasification, Use of Biomass Gasifier, Gasifier Biomass Feed Characteristics, Applications of Biomass Gasifier, Cooling and Cleaning of Gasifiers.

Biogas Energy: Introduction, Biogas and its Composition, Anaerobic Digestion, Biogas Production, Benefits of Biogas, Factors Affecting the Selection of a Particular Model of a Biogas Plant, Biogas Plant Feeds and their Characteristics.

Tidal Energy: Introduction, Tidal Energy Resource, Tidal Energy Availability, Tidal Power Generation in India, Leading Country in Tidal Power Plant Installation, Energy Availability in Tides, Tidal Power Basin, Turbines for Tidal Power, Advantages and Disadvantages of Tidal Power, Problems Faced in Exploiting Tidal Energy.

Module-5

Sea Wave Energy: Introduction, Motion in the sea Waves, Power Associated with Sea Waves, Wave Energy Availability, Devices for Harnessing Wave Energy, Advantages and Disadvantages of Wave Power.

Ocean Thermal Energy: Introduction, Principles of Ocean Thermal Energy Conversion (OTEC), Ocean Thermal Energy Conversion plants, Basic Rankine Cycle and its Working, Closed Cycle, Open Cycle and Hybrid Cycle, Carnot Cycle, Application of OTEC in Addition to Produce Electricity, Advantages, Disadvantages and Benefits of OTEC.

Course outcomes:

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

- Discuss causes of energy scarcity and its solution, energy resources and availability of renewable energy.
- Outline energy from sun, energy reaching the Earth's surface and solar thermal energy applications.
- Discuss types of solar collectors, their configurations, solar cell system, its characteristics and their applications.
- Explain generation of energy from hydrogen, wind, geothermal system, solid waste and agriculture refuse.
- Discuss production of energy from biomass, biogas.
- Summarize tidal energy resources, sea wave energy and ocean thermal energy.

Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Sl No	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook				
1	Nonconventional Energy Resources	Shobh Nath Singh	Pearson	1st Edition, 2015
Reference Books				
1	Nonconventional Energy Resources	B.H. Khan	McGraw Hill	3rd Edition
2	Renewable Energy; Power for a sustainable Future	Godfrey Boyle	Oxford	3rd Edition, 2012
3	Renewable Energy Sources: Their Impact on global Warming and Pollution	Tasneem Abbasi S.A. Abbasi	PHI	1st Edition, 2011

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APPR-20.09.2022

(Common for B.E. (21SCR36), B. Plan.(21UH36/21SCR36), B.Arch.(21UH39/21SCR36) and B.Sc (21BS39/21SCR36)

SOCIAL CONNECT & RESPONSIBILITIES			
Course Code	**21SCR36**	**CIE Marks**	**50**
Teaching Hours week (L:T:P:S)	1: 0: 0	SEE Marks	50
Total Hours of Pedagogy	15	Total Marks	100
Credits	01	Exam Hours	03
Department	Management Studies / Engineering Department		
Offered for	3rd Semester		
Prerequisite	Nil		

Objectives: The Course will

- Enable the student to do a deep drive into societal challenges being addressed by NGO(s), social enterprises & The government and build solutions to alleviate these complex social problems through immersion, design & technology.
- Provide a formal platform for students to communicate and connect with their surroundings.
- Enable to create of a responsible connection with society.

Learning Outcomes: The students are expected to have the ability to :

1. Understand social responsibility
2. Practice sustainability and creativity
3. Showcase planning and organizational skills

Contents:

The course is mainly activity-based that will offer a set of activities for the student that enables them to connect with fellow human beings, nature, society, and the world at large. The course will engage studentsinr interactive sessions, open mic, reading groups, storytelling sessions, and semester-long activities conducted by faculty mentors. In the following a set of activities planned for the course have been listed :

Module-I

Plantation and adoption of a tree: Plantation of a tree that will be adopted for four years by a group of B.Tech. students. They will also make an excerpt either as a documentary or a photoblog describing the plant's origin, its usage in daily life, and its appearance in folklore and literature.

Module-II

Heritage walk and crafts corner: Heritage tour, knowing the history and culture of the city, connecting to people around through their history, knowing the city and its craftsman, photoblog and documentary on evolution and practice of various craft forms.

Module-III

Organic farming and waste management: usefulness of organic farming, wet waste management in neighboring villages, and implementation in the campus.

Module-IV

Water Conservation: knowing the present practices in the surrounding villages and

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implementation in the campus, documentary or photo blog presenting the current practices.

Module-V

Food Walk City's culinary practices, food lore, and indigenous materials of the region used in cooking.

Activities

Jamming session, open mic, and poetry: Platform to connect to others. Share the stories with others. **Share the experience of Social Connect**. Exhibit the talent like playing instruments, singing, one-act play, art-painting, and fine art.

PEDAGOGY

The pedagogy will include interactive lectures, inspiring guest talks, field visits, social immersion, and a course project. Applying and synthesizing information from these sources to define the social problem to address and take up the solution as the course project, with your group. Social immersionwith NGOs/social sections will be a key part of the course. Will all lead to the course project that will address the needs of the social sector?

COURSE TOPICS:

The course will introduce social context and various players in the social space, and present approaches to discovering and understanding social needs. Social immersion and inspiring conversional will culminate in developing an actual, idea for problem-based intervention, based on an in-depth understanding of a key social problem.

A total of 14-20 hrs engagement per semester is required for the 3rd semester of the B.E. /B.Tech. program. The students will be divided into 10 groups of 35 each. Each group will be handled by two **faculty mentors**. Faculty mentors will design the activities (particularly Jammingsessions open mic ,and poetry)

Faculty mentors has to design the evaluation system.

Guideline forAssessment Process:

Continuous Internal Evaluation (CIE)

After completion of, the social connect, the student shall prepare, with daily **diary** as reference, a comprehensive report in consultation with the mentor/s to indicate what he has observed and learned in the social connect period. The report should be signed by the mentor. The report shall be evaluated on the basis of the following criteria and/or other relevant criteria pertaining to the activity completed.

Marks allotted for the diary are out of 50.
Planning and scheduling the social connect
Information/Data collected during the social connect
Analysis of the information/data and report writing

Considering all above points allotting the marks as mentioned below-

Excellent	80 to 100
Good	60 to 79
Satisfactory	40 to 59
Unsatisfactoryand fail	<39

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Semester End Examination (SEE)
This Jamming session will be conducted at the end of the course for **50 marks**
Jamming session includes -Platform to connect to others. Share the stories with others. **Share the experience of Social Connect**. Exhibit the talent like playing instruments, singing, one-act play, art painting, and fine art.
Faculty mentor has to design the evaluation system for the Jamming session.

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Pedagogy (Guidelines) may differ depending on local resources available for the study

Module	Topic	Content	Group Size	Location	Magnitude	Activity	Reporting	Evaluation
I	Plantation and adoption of a tree	Plantation of a tree that will be adopted for four years by a group of B.Tech. students. They will also make an excerpt either as a documentary or a photoblog describing the plant's origin, its usage in daily life, and its appearance in folklore and literature.	03 – 05	Farmers Land or Road side or Community area or institution's campus, any one location to be selected.	One Students must monitor it for three years	Site selection Select suitable species in consultation with horticulture, forest or agriculture department. Interact with NGO/Industry and community to plant Tag the plant for continuous monitoring	Report shall be handwritten or blog with paintings, sketches, poster, video and/or photograph with Geo tag.	Each module is evaluated for 50 Marks and average of all the five modules will be the final marks. **CIE Rubrics for 50 M** Planning and scheduling the social connect – 15 M Information/Data collected during the social connect – 15 M Analysis of the information/data and report writing – 20 M **SEE 50 M:** Presentation, Jamming session, Open mic, Group
II	Heritage walk and crafts corner	Heritage tour, knowing the history and culture of the city, connecting to people around through their history, knowing the city and its craftsman, photoblog and documentary on evolution and practice of various craft forms.	03 - 05	Preferably Within the city where institution is located or home town of the student group	One or two One can be a structure or a heritage building the other can be heritage custom or practise	Survey in the form of questioner by connecting to the people and asking. No standard questioner to be given by faculty and has to be evolved involving students. Questions during survey can be asked in local language but report language is English.		
III	Waste management	Wet waste management in neighbouring villages, and implementation in the campus.	03 - 05 More than one group can be	Preferably in the nearby villages and within the campus.	One	Report on importance and benefits of Waste management. Report on segregation, collection, transportation and disposal.		

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			assigned one task based on magnitude of task.			Suggestion for composting. Visit nearby village/location to sensitize farmers and public about waste management and also document current practises.		discussion and debate.
III	Organic farming	Usefulness of organic farming in neighbouring villages, and implementation in the campus.	03 – 05	Visit to farming lands where organic farming is going on Campus Garden Roof top Garden or Vertical Garden or hydroponics if land is scarce.	One	Collect data on organic farming in the vicinity. Like types of crop, methodology etc.,. Suggestion for implementation at selected locations		
IV	Water Conservation	Knowing the present practices in the surrounding villages and implementation in the campus, documentary or photo blog presenting the current practices.	03 – 05	Rain water harvesting demonstration available in the campus or surroundings	One	Visit lakes/pond/river/dry well to involve on rejuvenation activity. Or Assessment of Water budget in the campus/village		

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						Report on traditional water conservation practices (to minimize wastage)		
V	Food Walk	City's culinary practices, food lore, and indigenous materials of the region used in cooking.	03 - 05	Within the city where institution is located Food culture of student's resident region	One	Survey local food centres and identify the speciality Identify and study the food ingredients Report on the regional foods Report on Medicinals values of the local food grains, and plants.		

**Important recommendations requested; Special Appreciation from institution and university for students who take care of plants for three years.

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SAMPLE TEMPLATE

IV Semester

UNIVERSAL HUMAN VALUES-II: UNDERSTANDING HARMONY and ETHICAL HUMAN CONDUCT			
Title of the subject			
Course Code	21UHV49	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	2:0:0	SEE Marks	50
Total Hours of Pedagogy	20	Total Marks	100
Credits	01	Exam Hours	01

Course objectives:

This introductory course input is intended:

1. To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
2. To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of existence. Such a holistic perspective forms the basis of Universal Human Values and movement towards value-based living in a natural way.
3. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.

This course is intended to provide a much-needed orientational input in value education to the young enquiring minds.

Teaching-Learning Process (General Instructions)

These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes.

1. The methodology of this course is explorational and thus universally adaptable. It involves a systematic and rational study of the human being vis-à-vis the rest of existence.
2. The course is in the form of 20 lectures (discussions)
3. It is free from any dogma or value prescriptions.
4. It is a process of self-investigation and self-exploration, and not of giving sermons. Whatever is found as truth or reality is stated as a proposal and the students are facilitated to verify it in their own right, based on their Natural Acceptance and subsequent Experiential Validation – the whole existence is the lab and every activity is a source of reflection.
5. This process of self-exploration takes the form of a dialogue between the teacher and the students to begin with, and then to continue within the student in every activity, leading to continuous self-evolution.
6. This self-exploration also enables them to critically evaluate their pre-conditionings and present beliefs.

Module-1

Introduction to Value Education (4 hours)

Right Understanding, Relationship and Physical Facility (Holistic Development and the Role of Education)

Understanding Value Education, Self-exploration as the Process for Value Education, Continuous Happiness and Prosperity – the Basic Human Aspirations, Happiness and Prosperity – Current Scenario, Method to Fulfil the Basic Human Aspirations

Teaching-Learning Process	Introduction to Value Education- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos

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Module-2	
Harmony in the Human Being (4 hours) Understanding Human being as the Co-existence of the Self and the Body, Distinguishing between the Needs of the Self and the Body, The Body as an Instrument of the Self, Understanding Harmony in the Self, Harmony of the Self with the Body, Programme to ensure self-regulation and Health	
Teaching-Learning Process	Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos
Module-3	
Harmony in the Family and Society (4 hours) Harmony in the Family – the Basic Unit of Human Interaction, 'Trust' – the Foundational Value in Relationship, 'Respect' – as the Right Evaluation, Other Feelings, Justice in Human-to-Human Relationship, Understanding Harmony in the Society, Vision for the Universal Human Order	
Teaching-Learning Process	Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos
Module-4	
Harmony in the Nature/Existence (4 hours) Understanding Harmony in the Nature, Interconnectedness, self-regulation and Mutual Fulfilment among the Four Orders of Nature, Realizing Existence as Co-existence at All Levels, The Holistic Perception of Harmony in Existence	
Teaching-Learning Process	Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos
Module-5	
Implications of the Holistic Understanding – a Look at Professional Ethics (4 hours) Natural Acceptance of Human Values, Definitiveness of (Ethical) Human Conduct, A Basis for Humanistic Education, Humanistic Constitution and Universal Human Order, Competence in Professional Ethics Holistic Technologies, Production Systems and Management Models-Typical Case Studies, Strategies for Transition towards Value-based Life and Profession	
Teaching-Learning Process	Introduction to the concepts- Chalk and talk method, Discussion, Sharing of experiences, Live Examples and videos
Course outcome (Course Skill Set) By the end of the course, students are expected to become more aware of themselves, and their surroundings (family, society, nature); they would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind. They would have better critical ability. They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society). It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.	

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Therefore, the course and further follow up is expected to positively impact common graduate attributes like:

1. Holistic vision of life
2. Socially responsible behaviour
3. Environmentally responsible work
4. Ethical human conduct
5. Having Competence and Capabilities for Maintaining Health and Hygiene
6. Appreciation and aspiration for excellence (merit) and gratitude for all

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% (18 Marks out of 50)in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

Continuous Internal Evaluation:

Three Unit Tests each of 20 Marks (duration 01 hour)

1. First test at the end of 5th week of the semester
2. Second test at the end of the 10th week of the semester
3. Third test at the end of the 15th week of the semester

Two assignments each of 10 Marks

4. First assignment at the end of 4th week of the semester
5. Second assignment at the end of 9th week of the semester

Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for **20 Marks (duration 01 hours)**

6. At the end of the 13th week of the semester

The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be **scaled down to 50 marks**

(to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (**duration 01 hours)**

1. The question paper will have 50 questions. Each question is set for 01 marks.
2. The students have to answer all the questions, selecting one full question from each module

Suggested Learning Resources:

Books

-READINGS:

Text Book and Teachers Manual

a. The Textbook

A Foundation Course in Human Values and Professional Ethics, R R Gaur, R Asthana, G P Bagaria, 2nd Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-47-1

b. The Teacher"s Manual

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Teachers" Manual for *A Foundation Course in Human Values and Professional Ethics*, R R Gaur, R Asthana, G

Reference Books

1. JeevanVidya: EkParichaya, A Nagaraj, JeevanVidyaPrakashan, Amarkantak, 1999.
2. Human Values, A.N. Tripathi, New Age Intl. Publishers, New Delhi, 2004.
3. The Story of Stuff (Book).
4. The Story of My Experiments with Truth - by Mohandas Karamchand Gandhi
5. Small is Beautiful - E. F Schumacher.
6. Slow is Beautiful - Cecile Andrews
7. Economy of Permanence - J C Kumarappa
8. Bharat Mein Angreji Raj – Pandit Sunderlal
9. Rediscovering India - by Dharampal
10. Hind Swaraj or Indian Home Rule - by Mohandas K. Gandhi
11. India Wins Freedom - Maulana Abdul Kalam Azad
12. Vivekananda - Romain Rolland (English)
13. Gandhi - Romain Rolland (English)
14. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
15. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
16. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
17. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
18. A N Tripathy, 2003, Human Values, New Age International Publishers.
19. SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati.
20. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers , Oxford University Press
21. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
22. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
23. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

Web links and Video Lectures (e-Resources):

1. Value Education websites, https://www.uhv.org.in/uhv-ii, http://uhv.ac.in, http://www.uptu.ac.in
2. **Story of Stuff, http://www.storyofstuff.com**
3. **Al Gore, An Inconvenient Truth, Paramount Classics, USA**
4. **Charlie Chaplin, Modern Times, United Artists, USA**
5. **IIT Delhi, Modern Technology – the Untold Story**
6. Gandhi A., Right Here Right Now, Cyclewala Productions
7. https://www.youtube.com/channel/UCQxWr5QB_eZUnwxSwxXEkQw
8. https://fdp-si.aicte-india.org/8dayUHV_download.php
9. https://www.youtube.com/watch?v=8ovkLRYXIjE
10. https://www.youtube.com/watch?v=OgdNx0X923I
11. https://www.youtube.com/watch?v=nGRcbRpvGoU
12. https://www.youtube.com/watch?v=sDxGXOgYEKM

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

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F.No AICTE/FDP-SI/OnlineWorkshop/201/19

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Dr. Narena Viswanath from Shridevi Institute of Engineering And Technology, Tumakur has participated and successfully completed the online workshop on Universal Human Values on the theme "Inculcating Universal Human Values in Technical Education" during 2-6 May, 2020 as organized by All India Council for Technical Education(AICTE).

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

F.No AICTE/FDP-SI/OnlineWorkshop/201/19783

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Dr. Chanasekhar. N from Shridevi Institute of Engineering And Technology, Tumkur has participated and successfully completed the online workshop on Universal Human Values on the theme "Inculcating Universal Human Values in Technical Education" during 2-6 May, 2020 as organized by All India Council for Technical Education(AICTE).

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

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F.No AICTE/FDP-SI/OnlineWorkshop/201/156988

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Dr. Sadashivaiah P J from Shridevi Institute of Engineering and Technology, Tumakuru has participated and successfully completed the 5-day Online FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education (AICTE) from 31st October to 04th November 2022.

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

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COURSE OUTCOME:

1. Understand various research approaches, techniques and strategies in the appropriate in business.
2. Apply a range of quantitative / qualitative research techniques to business and day to day management problems.
3. Demonstrate knowledge and understanding of data analysis, interpretation and report writing.
4. Develop necessary critical thinking skills in order to evaluate different research approaches in Business.

RECOMMENDED BOOKS

- Business Research Methods: A South-Asian Perspective with course Mate William G.Zikmund/Barry J.Babin/Jon C.Carr/AtanuAdhikari/Mitch Griffin, Cengage learning.
- Business Research Methods: S.N.Murthy&U.Bhojanna. Excel Books.
- Business Research Methods. Donald R. Cooper & Pamela s Schindler, 9/e, TMH /2007.

REFERENCE BOOKS

- Research Methodology – C.R.Kothari, Vishwa Prakashan.
- Research Methods – M MMunshi& K Gayathri Reddy, Himalaya Publishing House, 2015.
- Marketing Research- Naresh K Malhotrs- 5th Edition, Pearson Education /PHI 2007.

CO-PO MAPPING

CO	PO				
	PO1	PO2	PO3	PO4	PO5
CO1	X				
CO2		X			
CO3			X		
CO4					X

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LEGAL AND BUSINESS ENVIRONMENT

Semester	II	CIE Marks	: 40
Course Code	18MBA24	SEE Marks	: 60
Teaching Hours / week (L:T:P)	4-0-0	Exam Hours	: 03
	Credits : 04		

Course Objectives:

1. To provide insights into the core concepts of incorporation of company.
2. To understand various policies and procedures of the company Act.
3. To gain insights into various procedure of Investigation &Winding up of Companies.

Part-A (Legal Environment)

Unit I:

Indian Contract Act, 1872-Meaning of contract, agreement, essential elements of a valid contract. Law of agency-meaning, creation and termination of agency.

Unit 2 :

Corporate Incorporation and Management

Definition of company, characteristics, types of company, lifting of corporate veil (i) Incorporation of company (ii) Memorandum and Articles of Association (iii) Doctrine of Ultra Vires (iv) Doctrine of Indoor Management and constructive notices Management - (i) Directors: Appointment, Removal, Position, Powers and Duties of Directors. (ii) Auditor and audit Committee: Its Role. Directors – qualification and Appointment, Liabilities and duties.

Mini case Presentation and Discussion on Saloman v/s A Soloman & Company Ltd.

Unit 3:

Oppression, Mismanagement and Investigation:

(i) Prospectus, membership and shareholding in an company.(ii) Prevention of Oppression (iii) Prevention of Mismanagement (iv) Role & Powers of the Company Law Board (v) Role & Powers of Central Government. Meeting : (i) Types of Meetings (ii) Procedure of calling for a meeting (iii) Company's resolutions and its kinds, proxies.

Corporate Liquidation: (i). Winding up of Companies (ii). Mode of winding up of the companies (iii). Compulsory Winding up under the Order of the Tribunal (iv). Voluntary winding up (v). Contributories (vi). Payment of liabilities.

Mini case Presentation and Discussion on Rule in Foss v. Harbottle.

PRACTICAL COMPONENTS:

- Students to collect analyze and discuss MOA, AOA & Prospectus of a company.
- Students to produce a report on the working of reputed agency including its formation, nature of relations with the outside world and such other issues of relevance.

COURSE OUTCOME:

1. Students should get clear idea about the concept of incorporation of company, its relevance, characteristics, types of company, lifting of corporate.
2. Student to acquire knowledge about conducting meeting, duties of directors and Investigation of the company.
3. To give the students an insight on Winding up of the companies , Mode of winding up of the companies.

RECOMMENDED BOOKS:

- Elements of Mercantile law, Sultanchand publications, 34th Edition, 2014
- Legal & Business Environment, Racvindra Kumar & Renukamurthy, Cengage learning, 2018.
- Saleem Sheikh & William Rees, Corporate Governance & Corporate Control, Cavendish Publishing Ltd., 1995.

REFERENCES BOOKS:

- Charles Wild & Stuart Weinstein Smith and Keenan, Company Law, Pearson Longman, 2009 2. Institute of Company Secretaries of India, Companies Act 2013, CCH Wolter Kluver Business, 2013.
- Lexis Nexis, Corporate Laws 2013 (Palmtop Edition) 4. C.A. Kamal Garg, Bharat's Corporate and Allied Laws, 2013. Taxmann, Companies Act 2013.

CO – PO MAPPING.

CO	PO				
	PO1	PO2	PO3	PO4	PO5
CO1	X				
CO2			X		X
CO3			X		X

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Part-B (Business Environment)

Course Objectives:

1. To provide an understanding about the Macro Economic Environment of Business.
2. To have an understanding of the basic macro-economic concepts.
3. To study the various economic policies of our country.

Unit-4

Indian Business environment: Nature and Scope, Structure of the Business Environment – Internal and External environment. Political and Legal Environment, Economic Environment, Socio – Cultural Environment, Global environment: WTO and global relations.

Basic economic Concepts: Open and Closed Economies, Primary, secondary and Tertiary sectors and their contribution to the economy. SWOT Analysis for the Indian economy. Measuring the Economy: Measuring GDP and GDP Growth rate, Components of GDP, Business Cycle- Features, and Phases.

Unit-5

Industrial Policies and Structure: Planning- Problems in industrial development during the plan period, Classification of industries based on ownership. Industrial policies, Industrial strategy for the future, New Industrial policy 1991.

Structure of Indian Industry: Public and Private Sector Enterprises, Objectives of PSUs, Performance and shortcomings. Private Sector– growth, problems and prospects. SSI – Role in Indian Economy. Startups and their current state in India.Privatisation-Problems and prospects, Disinvestments in Indian public sector Units since 1991.

Case Study : Privatization of Airport and Airline Industry, Source: Business Environment: Text and cases – Justin Paul, 2/e, McGraw Hill. 2008. Pp 166-168.

Unit-6

Economic policies: Fiscal Policy: Objectives, Instruments, Union Budget, Taxes, Role of Government.

Monetary Policy: Money, Measures of money supply, Monetary system inIndia, Tools for credit control. Structure of the Banking system, RBI and its functions, Banking structure reforms –Narasimham committee recommendations.

India Foreign Trade Policy: Objectives, Features, Policy of 2015-2020-salient features.

PRACTICAL COMPONENTS:

- Students are expected to give a report on how the economic

environment has affected the performance of any five large Indian Business Houses.

- Students are expected to analyze the major economic and financial indicators such as GDP, Inflation, CPI, BSE, NSE, Currency, Gold rate, Oil barrel price etc., for a particular period of time and submit the report on the same.

COURSE OUTCOMES:

1. To student will have an understanding of the macro environment of Business and various macroeconomic concepts.
2. The student will understand the industrial policies of the past and the present and the evolution over time, and how Indian Industrial structure evolved over time.
3. The student will be exposed to various economic policies of the country and the state of economy.

RECOMMENDED BOOKS:

- Economic Environment of Business –Misra S. K &Puri V. K. , 6/e, Himalaya publishing house, 2010.
- Business Environment :Text and Cases - Justin Paul, 3/e, McGrawHill, 2011.
- Business Environment - Fernando, 1/e, Pearson, 2011.

REFERENCE BOOKS:

- Principles of Macro Economics –Mankiw, 4/e, Cengage Learning,2011.
- Macro Economics – Andrew. B. Abel, & Ben S. Bernanke, 7/e,Pearson Education, 2011.

CO-PO MAPPING

CO	PO				
	PO1	PO2	PO3	PO4	PO5
CO1	X				
CO2			X		X
CO3			X		X

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STRATEGIC MANAGEMENT

Semester	**II**	**CIE Marks**	**: 40**
Course Code	**18MBA25**	**SEE Marks**	**: 60**
Teaching Hours / week (L:T:P)	**4-0-0**	**Exam Hours**	**: 03**
	Credits : 04		

Course Objectives:

1. To provide insights into the core concepts of strategic management.
2. To evaluate various business strategies in dynamic market environments.
3. To gain insights into various strategic management models.

Unit 1:

Meaning and Nature of Strategic Management, its Importance and relevance and . Characteristics of Strategic Management, The Strategic Management Process. Relationship between a Company ' s Strategy and its Business Model.

Minicase Presentation and Discussion: Business model of Amul and KMF , Suggested questions for case presentation: a. Discuss competitive strategy of Amul b. what are the difference between Amul business model and KMF.

Unit 2:

Strategy Formulation- Understand strategic management process business definition & Organization values that build mission statement. Describe strategic vision, mission, goals, long term objectives, short term objectives and discuss their value to the strategic management process. Balanced Score card.

Minicase Presentation and Discussion: Shanghai GM , Suggested questions for case presentation: a. Introducing China's auto industry, including opportunities & threats b. Why joint venture with SAIC? c. What makes Shanghai GM successful? d. Lessons learnt to other Western MNEs.

Unit 3:

Analyzing a Company' s External Environment – The Strategically relevant components of a Company's External Environment – Industry Analysis - what factors are driving industry change and its impact - Porter's dominant economic feature - Competitive Environment Analysis - Porter's Five Forces model – Key Success Factors concept and implementation.

Mini-Case Presentations and Discussions: Jet Blue Airlines Suggested topics for case presentation and discussion: a. Analyzing the general (national/global) environment b. Assessing five forces of the industry c. Identifying opportunities & threats of the industry d. Jet Blue's capability analysis.

MANAGEMENT AND ENTREPRENEURSHIP FOR IT INDUSTRY

(Effective from the academic year 2018 -2019)

SEMESTER – V

Course Code	**18CS51**	**CIE Marks**	40
Number of Contact Hours/Week	2:2:0	**SEE Marks**	60
Total Number of Contact Hours	40	**Exam Hours**	03

CREDITS – 03

Course Learning Objectives: This course (18CS51) will enable students to:

- Explain the principles of management, organization and entrepreneur.
- Discuss on planning, staffing, ERP and their importance
- Infer the importance of intellectual property rights and relate the institutional support

Module – 1	**Contact Hours**
Introduction - Meaning, nature and characteristics of management, scope and Functional areas of management, goals of management, levels of management, brief overview of evolution of management theories,. Planning- Nature, importance, types of plans, steps in planning, Organizing- nature and purpose, types of Organization, Staffing- meaning, process of recruitment and selection **RBT: L1, L2**	08
Module – 2	
Directing and controlling- meaning and nature of directing, leadership styles, motivation Theories, Communication- Meaning and importance, Coordination- meaning and importance, Controlling- meaning, steps in controlling, methods of establishing control. **RBT: L1, L2**	08
Module – 3	
Entrepreneur – meaning of entrepreneur, characteristics of entrepreneurs, classification and types of entrepreneurs, various stages in entrepreneurial process, role of entrepreneurs in economic development, entrepreneurship in India and barriers to entrepreneurship. Identification of business opportunities, market feasibility study, technical feasibility study, financial feasibility study and social feasibility study. **RBT: L1, L2**	08
Module – 4	
Preparation of project and ERP - meaning of project, project identification, project selection, project report, need and significance of project report, contents, formulation, guidelines by planning commission for project report, **Enterprise Resource Planning: Meaning and Importance- ERP** and Functional areas of Management – Marketing / Sales- Supply Chain Management – Finance and Accounting – Human Resources – Types of reports and methods of report generation **RBT: L1, L2**	08
Module – 5	
Micro and Small Enterprises: Definition of micro and small enterprises, characteristics and advantages of micro and small enterprises, steps in establishing micro and small enterprises, Government of India indusial policy 2007 on micro and small enterprises, case study (Microsoft), Case study(Captain G R Gopinath),case study (N R Narayana Murthy & Infosys), **Institutional support:** MSME-DI, NSIC, SIDBI, KIADB, KSSIDC, TECSOK, KSFC, DIC and District level single window agency, **Introduction to IPR.**	08

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RBT: L1, L2	
Course outcomes: The students should be able to:	
• Define management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship • Utilize the resources available effectively through ERP • Make use of IPRs and institutional support in entrepreneurship	
Question Paper Pattern:	
• The question paper will have ten questions. • Each full Question consisting of 20 marks • There will be 2 full questions (with a maximum of four sub questions) from each module. • Each full question will have sub questions covering all the topics under a module. • The students will have to answer 5 full questions, selecting one full question from each module.	
Textbooks:	
1. Principles of Management -P. C. Tripathi, P. N. Reddy; Tata McGraw Hill, 4th / 6th Edition, 2010. 2. Dynamics of Entrepreneurial Development & Management -Vasant Desai Himalaya Publishing House. 3. Entrepreneurship Development -Small Business Enterprises -Poornima M Charantimath Pearson Education – 2006. 4. Management and Entrepreneurship - Kanishka Bedi- Oxford University Press-2017	
Reference Books:	
1. Management Fundamentals -Concepts, Application, Skill Development Robert Lusier – Thomson. 2. Entrepreneurship Development -S S Khanka -S Chand & Co. 3. Management -Stephen Robbins -Pearson Education /PHI -17th Edition, 2003	

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2.	Environmental Studies	S M Prakash	Pristine Publishing House, Mangalore	3rd Edition 2018
3	Environmental Studies – From Crisis to Cure	R Rajagopalan	Oxford Publisher	2005
Reference Books				
1	Principals of Environmental Science and Engineering	Raman Sivakumar	Cengage learning, Singapur.	2nd Edition, 2005
2	Environmental Science – working with the Earth	G.Tyler Miller Jr.	Thomson Brooks /Cole,	11th Edition, 2006
3	Text Book of Environmental and Ecology	Pratiba Sing, AnoopSingh& PiyushMalaviya	Acme Learning Pvt. Ltd. New Delhi.	1st Edition

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B.E IN CIVIL ENGINEERING(CV-2018-19)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER – V

ENVIRONMENTAL STUDIES

Course Code	**18CIV59**	CIE Marks	40
Teaching Hours / Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.
Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications)**:** Hydrogen, Solar, OTEC, Tidal and Wind.
Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution.
Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies): Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.
Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

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

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
- CO2: Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
- CO3: Demonstrate ecology knowledge of a complex relationship between biotic and a biotic components.
- CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Question paper pattern:

- The Question paper will have 100 objective questions.
- Each question will be for 01 marks
- Student will have to answer all the questions in an OMR Sheet.
- The Duration of Exam will be 2 hours.

Sl. No.	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Environmental Studies	Benny Joseph	Tata Mc Graw – Hill.	2nd Edition, 2012

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B. E. COMMON TO ALL PROGRAMMES
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)
SEMESTER – V

ENVIRONMENTAL STUDIES

Course Code	18CIV59	CIE Marks	40
Teaching Hours / Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.
Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications): Hydrogen, Solar, OTEC, Tidal and Wind.
Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies): Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution.
Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies):Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.
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Sl. No.	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				

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1	Environmental Studies	Benny Joseph	Tata Mc Graw – Hill.	2nd Edition, 2012
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ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಬೆಳಗಾವಿ ಅಧಿನಿಯಮ ೧೯೯೪ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ
"ಜ್ಞಾನ ಸಂಗಮ", ಬೆಳಗಾವಿ-೫೯೦೦೧೮, ಕರ್ನಾಟಕ, ಭಾರತ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)
"Jnana Sangama" Belagavi-590018, Karnataka, India
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Registrar

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Ref: VTU/BGM/BOS/SO2/2021-22 93

Date: 27 APR 2022

CIRCULAR

Subject Regarding the correct code of the course Constitution of India, Professional Ethics and Cyber Law regarding...

Reference query from stakeholders

This is concerning the subject cited above, there is a typographical error in the subject code for the subject "Constitution of India, Professional Ethics and Cyber Law" on the scheme page, however, it is correctly mentioned on the syllabus page of a few programs which are uploaded on VTU web portal.

To be read as

18CPC39/49 - Constitution of India, Professional Ethics and Cyber Law

In place of

18CPH39/49 - Constitution of India, Professional Ethics and Cyber Law

The Principals of all Engineering Colleges coming under the ambit of the University are hereby informed to bring this content of the circular to the notice of the students and faculty concerned

Sd/-
REGISTRAR

To,

1. The Principals of all Affiliated/Constituent /Autonomous Engineering Colleges and all Directors of Schools of Architecture under the ambit of VTU Belagavi.
2. The Chairpersons of all Departments, Centres for PG Studies in Belagavi, Kalbargi, Muddenahalli, and Mysore.

Copy to.

- The Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
- The Registrar (Evaluation), VTU Belagavi for information.
- The Regional Directors (I/c) of all the regional offices of VTU for circulation.
- The Director, SMU CNC ITI VTU Belagavi for information and request to upload the circular on the VTU website.

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REGISTRAR

B. E. Common to all Programmes
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code	18CPC39/49	CIE Marks	40
Teaching Hours/Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

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

CO 1: Have constitutional knowledge and legal literacy.

CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.

CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
- For the award of 40 CIE marks, refer the University regulations 2018.

Sl. No.	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction to the Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

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