

Syllabus:

1. Meaning of the constitution law and constitutionalism
2. Historical perspective of the Constitution of India
3. Salient features and characteristics of the Constitution of India
4. Scheme of the Fundamental Rights
5. The scheme of the Fundamental Duties and its legal status
6. The Directive Principles of State Policy –Its importance and implementation
7. Federal structure and distribution of legislative and financial powers between the Union and the States
8. Parliamentary Form of Government in India –The constitution powers and status of the President of India
9. Union Executive: structure, functions
10. Judiciary: Structure, role with special reference to PIL, writ petitions, strengthening of democracy and social justice
11. Amendment of the Constitutional Powers and Procedure
12. Emergency Provisions: National Emergency, President Rule, Financial Emergency
13. Local Self Government –Constitutional Scheme in India
14. Provisions of civil services: Characteristics, functions, merits and demerits
15. Democratic principles in industry

Syllabus:

Unit-I: Industrial Sociology:-

- Meaning and scope of Industrial Sociology
- Work Organization and its types.
- Concept of Leadership: Meaning, changing roles and its types.
- Concept of Power and Authority: Meaning, Importance, sources and Delegation
- Industrial Culture in India: Effects of Industrialization and Urbanization on Indian Society.

Unit-II: Industrial Psychology:-

- Meaning and scope of Industrial Psychology
- Recruitment, Selection and Training
- Industrial fatigue
- Motivation, Theories of motivation: Maslow's Need Priority Theory, Macgregor's X And Y Theory, McClelland's Needs Theory
- Dealing with Self: Stress, health, and coping; interpersonal relationships; gender roles; environmental adjustments.

Unit-III: Political Orientation:-

- Indian Constitution, features and federal structure.
- Fundamental rights
- Directive principles of state policy
- Industrial Democracy.
- Role of Bureaucracy in Modern Democratic states

Unit-IV: Economics:-

- Development of Indian Economy
- Infrastructure in the Indian Economy: Energy, power, transport system, road transport system, Rail-Road coordination, water transport, Civil aviation, communication system, urban infrastructure, science and technology, private investment in infrastructure.
- Role of Public and Private sector in Indian Economy.
- Challenges before Indian Economy in 21st Century. Poverty, Unemployment, Corruption, Regional Imbalance, Growth of educational sector.

Unit-V: Culture and Civilization:-

- Concept of Culture and Civilization.
- Study of engineering skills with special reference to Egyptian and Indus Valley Civilization.
- Role of Engineers as agent of change with specific reference to change in Indian Society during 20th and 21st century.
- Multiculturalism: Meaning, scope and significance especially in Indian context.

Unit-VI: Ethics and social responsibility:-

- Personal and professional ethics
- Corporate social responsibility
- Social capital, social audit.
- Role of entrepreneurship in nation building.
- Developing scientific and humanitarian outlook for the welfare of nation and society.

Syllabus :

Unit I :

Definition of estimating and costing, Purpose of estimate, Mode and Unit of measurement of various items as per IS1200 , Work charge establishment, Contingencies, PWD as construction agency, Technical sanction, Administrative approval, Price escalation, ,Current schedule of rates Types of estimate, Objective, use and methods of approximate estimate,. Estimate of earthwork of road & canal, Mass haul curve and its importance. Detailed estimate of reinforcement in RCC members, bar bending Schedule

Unit II :

Methods of detailed estimate; detailed estimate of building for Load bearing structure and RCC framed structure

Unit III :

Methods of carrying out works, contract documents, essentials of contract, major conditions of contract & clauses, Types of contract and its suitability, Earnest money and Security deposit. Tender notice, Types of tender, Acceptance and rejection of tender, Tender documents, Unbalanced tender, Pre qualification & Post qualification of contractor, Drafting of short tender notice, Liquidated damage, Arbitration.

Unit IV :

Specifications:- Definition, Objectives, Principles of writing specification, Sources of information, Types of specifications, Developing and drafting of details specifications of important items of buildings and road works. Rate Analysis: Definition, Purpose, factors affecting, Task works per day, Rate analysis of important items of work. Comparison of analyzed rates with CSR rates

Unit V :

Valuation: Purpose, Factor affecting, Cost, price & value, Definition of various values used, Freehold & lease hold property, Methods of valuation of property. Outgoing, gross income, net income, sinking fund, rent fixation, obsolescence, depreciation and its methods, capitalized value, year purchase. Cost accounting : MAS account, issue rates and store account. Measurement book

VII Semester B.E. (Civil Engineering)

Course Code: CET403

**Course: Contract, Accounts
and Works Management**

Syllabus :

UNIT I :

Introduction to Accountancy: Double entry system, ledger and journal, cash book, Profit and Loss account, Balance sheet

UNIT II :

Depreciation - straight line, reducing balance, sinking fund. Inventory Management - Economic Order quantity, Fixation of Inventory levels, Investment appraisal - payback period method, NPV method and IRR method

UNIT III :

Types of cost, Standard cost and budgeting, different types of budgets, advantages and problem Variance analysis - labour, material, overheads

UNIT IV :

Labor laws, Safety laws, Types of Tenders and Conditions, General regulations related to town planning

UNIT V :

VAT, Sales Tax, Work tax, Professional Tax, Turn over tax, Service tax, Income tax, Capital Gain Tax

UNIT VI :

Types of business organization- proprietorship, partnership, co- operative, private company, public company, Project financing - short, medium and long term.

VIII Semester B.E. (Civil Engineering)

Course Code: CET408

Course: Construction
Management

Syllabus :

Unit I :

Construction management :Significance, objective, function, Role of construction manager, Regulations and laws related to construction industry, Need for construction planning, Construction team, preparatory works, Job lay out.

Unit II :

Project management :Types of Projects, Various phases of Project, Project proposal Components of planning, Objectives of planning, factors effecting planning, Organizational setup, Introduction to Project management software , Project appraisal techniques, Capital budgeting, Benefit cost ratio calculation, Appraisal techniques, Break even analysis, Δ ROR method of analysis, annual equivalent method of analysis , Calculations , Recent topics in project management.

Unit III :

Network analysis :Bar diagrams and Gantt bar charts, Critical Path Method, P E R T, L O B method, Network preparation and critical path determination, Cost slope concept, Optimization of project cost and simple compression calculation.

Unit IV :

Resource management : Resource Planning, Resource Allocation, Resource leveling Resource based networking and optimization, Material Management: Functions, objectives, purchasing, procedures, Material Stock, Storing, Recording, Inventory control, Inventory control techniques, ABC analysis, EOQ.

Unit V:

Management Information System: System approach to management, Management and systems. Inference Techniques - Use of various statistical methods and tests, graphical representation. Quality control: Principles, Measurements and achievements. Safety management: Planning for safety: safety in construction, industry and work site. National safety council, Safety organization Construction hazards, accidents, its cost, cause, types and preventions

Unit VI :

Equipment management: Classification of Construction equipment's, Factors effecting selection, Standard and special equipment, Owning, Operation and Maintenance cost, Depreciation and Replacement cost, Economic life, down time cost. Construction Equipments: Excavators, Dozers, Hoisting, Hauling equipment's e.g. Power shovels, Drag Line, Bulldozer, Scraper, Drilling and

Blasting Equipments, Material Transporting and handling equipment such as Cranes, Hoists, conveyer belts, dumpers, cableways, rail system (Mechanism, Size, performance and limitations)

VII Semester B.E.
(Electronics Design Technology, Electronics Engineering, Information Technology)

Course Code: HUT401

**Course: Technical
Communication**

Syllabus :

- Foundation of Technical Communication :Defining technical communication, Objectives of technical communication, Process of producing a technical communication product, Audience recognition and involvement.
- Research and writing strategies- Preparation of abstract, proposals, research reports, professional reports, articles for journals, papers for conferences, Document design (graphics and visual appeal), Memos, Letters, Grammar rules, Punctuations, Mechanics, Spellings
- Speaking strategies and employability skills- Effective professional presentations, Group discussions, Resume making, Interviews.

VIII Semester B.E. (Industrial Engineering)

Course Code: INT 410-2 (Elective-II)

Course: Research Methodology

Syllabus:

Data collection, analysis and systematization of various research designs, Characteristics of data summarizing of various research designs, Specificity of oral and written presentation of various research designs, Interpretation of results in various research designs, Methodological parameters of various research designs, Various types of research designs and their substantiation, Structure and methodological parameters of research project, Specificity of content and relationships between parameters in research project report, Methodological and technical designs of research project report, Differences and similarities of quantitative and qualitative research report.

V Semester M.C.A. (Master in Computer Application)

Course Code: MCT 723

Course: Business Intelligence

Syllabus:

UNIT I: Introduction to Business Intelligence: Evolution of BI, BI value chain, introduction to business analytics, BI Definitions & Concepts, Business Applications of BI, BI Framework, Role of Data Warehousing in BI, BI Infrastructure Components - BI Process, BI Technology, BI Roles & Responsibilities.

UNIT II: Basics of Data Integration: Concepts of data integration need and advantages of using data integration, introduction to common data integration approaches, data integration technologies, Introduction to data quality, data profiling concepts and applications.

UNIT III: Multi-Dimensional Data Modeling: Introduction to data and dimension modeling, multidimensional data model, ER Modeling vs. multi-dimensional modeling, concepts of dimensions, facts, cubes, attribute, hierarchies, star and snowflake schema, introduction to business metrics and KPIs. Basics of Enterprise Reporting: Introduction to enterprise reporting, concepts of dashboards, balanced scorecards, Study of open source BI tools.

I Semester MBA (Integrated)

Course Code: MIT 102

Course: Business Ethics & Corporate Governance

Syllabus:

Unit I: Ethics an Introduction: Concept of ethics, Types of Ethics, Values & Ethics – Meaning & Types of Values, Ethical Action–Morals, Morality, Moral development pyramid, Beliefs & their Role. Business & its stake holders. Social Responsibility – Concept of CSR. Ecological Concerns – Air, Water, Land Pollution.

Unit II: Ethical Decision Making: Normative Framework –Principle of personal benefit, Principle of Social Benefit, Principle of Neutralization, Categorical Imperative, Principle of Duty, Principle of Justice and Principle of Lawfulness. Approaches / Theories of ethics –Kant's Deontological theory, Mill & Bentham's Utilitarianism theory, Aristotle's Virtue based ethics – Case studies on inspirational life stories of individuals.

Unit III: Business Organizational Ethics: Ethics in Business – Myth & Reality, Need and Importance of Business Ethics, Approaches to Business Ethics, The Indian Business scene; LPG & Global trends in business ethics, Code of Conduct in Business, Ethical Dilemmas, Professional Ethics.

Unit IV: Corporate Governance: Objectives, issues, importance and principles, Corporate Governance codes and practice, Structure and Process of Corporate Governance, Cadbury report, CII recommendations, OECD Principle, Corporate Governance & Investment – ethical investing, Insider trading, Case studies – Tata Finance, Enron case & UTI case.

Unit V: Ethical Issues in Marketing & HRM: Introduction; Principles of Ethical Marketing; Ethical approaches to buyer seller relationship; Ethics in Pricing; Ethics in product labeling and packing; Ethics in promotion; Social and Ethical criticism of Advertising & Media, Ethics in personal Selling. HRM & Ethics ; Privacy Issues, Restructuring and layoffs and Whistle Blowing.

Unit VI: Ethical Issues in Industries: Ethical issues in Production management Services, Product Design, Features, Quality standards, Safety, Obligation to inform consumer, Ford Pinto case; Ethics Audit – Formal committees, Auditing Process.

I Semester MBA (Integrated)

Course Code: MIT 104

Course: Human Skills

Syllabus:

Unit I: Foundations of individual behavior: Personal factors, Psychological factors, organizational systems and resources and environmental factors

Unit II: Intelligence: Concept of intelligence, Intelligence quotient, Measurement of intelligence, Factors influencing intelligence, Concept of emotional intelligence.

Unit III: Perception: Meaning of perception, Perceptual process, managing the perception process.

Unit IV: Personality: Concept and nature of personality, Determinants of personality, Personality structure- Big five personality model & Myers-Briggs Indicator.

Unit V: Attitude: Concept and nature of Attitude, Components of attitude, Formation of attitude, Changing attitudes, Major Job attitudes

Unit VI: Effective Thinking & Learning: Thinking Skills, thinking Styles, Concept of Six Thinking Hats, Meaning & definition of learning, principles of learning & learning styles.

IV Semester MBA (Integrated)

Course Code: MIT 210

Course: Legal Aspects of Business

Syllabus:

Unit I: Administration of law & legal system in India: Introduction to legal aspects of Business in general; Components of Legal System, Freedom of Trade, Profession and Occupation (Constitutional Provisions).

Unit II: The Companies Act (1956): Definition & characteristics of a company, Kinds of Companies, Provisions relating to Registration: Memorandum of Association, Articles of Association; Concept & contents of Prospectus, Directors – Powers, position and duties. Winding Up of the Company.

Unit III: The Partnership Act, 1932: Nature, Different types of partner, Difference between Partnership & Company, Reconstitution of partnership firm, Dissolution of partnership firm.

Unit IV: Indian Contract Act (1872): What is a contract, Different types of contract, Essential elements of a valid contract, Competency to enter in contracts (Sec. 11 & 12), Consent – Free consent, Coercion, undue influence, fraud, misrepresentation, mistake (sec 13-23), Void Agreement (sec 24-30), Consequences of breach of contract (sec 73-75).

Unit V: Intellectual Property Rights: Scope, Provisions & overview. Right to Information Act 2005 -Scope, Provisions & overview.

Unit VI: Consumer Protection Act: Scope, Provisions & overview. Definition of Consumer, Consumer Dispute & Consumer Complaint, Consumer Dispute Redress machinery: Composition & jurisdiction.

IX Semester MBA (Integrated)

Course Code: MIT 501

Course: Corporate Social Responsibility

Syllabus:

Unit I: Defining CSR: Definition of CSR, Sustainability, Externalizing Cost, Corporate Governance, Corporate Governance Principles.

Unit II: Legal Management, Ethics, CSR & Corporate Behavior : What is Ethics?, Ethical Philosophies, The Gaia Hypothesis, Corporate Behavior, Corporate Reputation, CSR, Ethics & Corporate Behavior, CSR in Company Act, 2013

Unit III: Performance Evaluation & Performance rating: Introduction, What is Performance? Its Aspects, Social Accounting, Balanced Scorecard, Environmental Audit, CSR Audit: ISO 26000, Measurement & Evaluation of Performance,

Unit IV: Globalization & CSR: Globalization Introduction, How Globalization affects CSR, Globalization, Corporate Failures & CSR, Globalization an opportunity or threat for CSR

Unit V: CSR in Not for Profit Organization: Distinguishing features of sector, Types of Not for Profit Organization, Motivation for Not for Profit Organizations, Implication for managers, Available Resources

I Semester MBA

Course Code: MBT 559

Course: Business Ethics

Syllabus:

Unit I: Ethics - An introduction: Concept of ethics, Business Ethics, Moral development pyramid, Normative Framework–Principle of personal benefit, Principle of Social Benefit, Principle of Neutralization, Categorical Imperative, Principle of Duty, Principle of Justice and Principle of Lawfulness. Approaches / Theories of ethics – Gandhi an Approach, Friedman's Economic theory, Kant's Deontological theory, Mill & Bentham's Utilitarianism theory, Case studies

Unit II: Corporate Social Responsibility : Business & its stakeholders, Social Responsibility – Concept of CSR, Role of NGO, Environmental Ethics – concerns, issues & case studies, Corporate Governance : Objectives, issues, features, Corporate Governance codes – Cadbury report, CII recommendations, Corporate Governance for public sector, Corporate Governance & Investment – ethical investing, Insider trading, Case.

Unit III: Ethical Issues in Financing, Marketing, HRM, Information Technology, Workplace and other related issues.

II Semester M. Tech. (Structural Engineering)

Course Code: CET 596

Course: Research Methodology

Syllabus:

What is Research?, How to do Research, The Objective of Research, Motivation in Research, Types of Research, Various Research Approaches, Significance of Research.

Research Methods, What is Research Methodology, Research Process, What is Research Problem, Various Components of Research Problem, How to Identify the Research Problem, Steps involved in formulation of Research Problem, Necessity and Techniques involved in Defining Research Problem, Feasibility Check.

What is Hypothesis ? its Characteristics, Examples and Types, Hypothesis Testing, Concepts and Procedure of Hypothesis Testing.

Data Collection, Methods of data collection, Primary Data, Secondary Data, Analysis of data, Simple regression, Multiple regression, linear and non linear correlation and regression .

Optimization, Principle, linear programming technique, simplex method, evolutionary programming techniques.

Model analysis of structures, direct and indirect method, dimensionless terms and their significance, structural similitude's, optimization of model.

Research Paper and its contents, Choice on topic, Method of writing research paper, Plagiarism including rules of plagiarism

I Semester M. Tech. (Power Electronics & Power System)

Course Code: EET 553

Course: Research Methodology

Syllabus:

General Aspects of Research: Meaning, motivation, characteristics, general objectives and types of research, difference between research technique, research method and research methodology, criteria for good research.

Research Problem: Defining & selection of research problem, method of selecting the research problem, research process in general & in electrical engineering, setting objectives for research, industry/ site visits, preparation of research plan/ design.

Literature Review: Significance and procedure of literature review, types of literature, current areas of research in electrical engineering, Standard national and international journals in electrical engineering, sources, environmental aspects in electrical engineering research.

Hypothesis: Construction, Functions, Types and Errors in testing of Hypothesis.

Technical Paper Writing, Technical Thesis Writing and Power Point Presentation: Necessities of good technical paper, paper format, approach towards writing different components of technical paper, Do's and Dont's in paper writing, concept of bibliography/ references, Writing the Synopsis prior to final report, considerations in technical report writing, Effective power point presentation on technical research.

Data Presentation Skills: Histogram, bar charts, pie charts, 2D & 3D plots, interpolation & extrapolation, curve-fitting, FFT.

Artificial Intelligence Methods: Basics of Expert System, Fuzzy Logic, ANN & applications in electrical engg.

Computer Simulation Tools: MATLAB, Simulink, PowerSim, and their applications in electrical engineering.

Experimental tools & components: Sensors, study of data sheets for various components such as linear IC, digital IC, driver circuits and electrical elements.

Evaluation of Research: Intellectual property rights, journal rankings, impact factor, eigenfactor score, citation, h-index and their calculation, plagiarism, IEEE levels of plagiarism, Avoiding

plagiarism, patents and its benefits, inventions which cannot be patented as per Indian Patent Act 1970.

III Semester M. Tech. (Industrial Engineering)

Course Code: INT 652-3

Course: Business Communications

Syllabus:

Introduction, importance of communication, process of communication, types of communication, Interpersonal and intrapersonal communication, basic communication skills, barriers to communication, overcoming the barriers in communication, Effective verbal communication, public speaking, oral presentation, non-verbal communication, telephonic conversation. Group behavior and group dynamics, group discussion, types of interviews, facing the personal interview, meetings, video conferencing Effective written communication, reports, memos, business letters. Communication through emails.

I Semester M. Tech. (Heat Power Engineering)

Course Code: MET 556

Course: Research Methodology

Syllabus:

Introduction: Meaning & Objectives of Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Importance of Knowing How Research is Done, Research Process, Criteria of Good Research.

Literature Review and Formulating a Research Problem: Place of Literature Review, Procedure for reviewing the literature, what is a Research Problem, Sources of a Research Problem, Selecting the Problem, Necessity of Defining the Problem, Techniques Involved in Defining a Problem.

Methods of Data Collection, Data Analysis and Sampling Fundamentals: Types of Variables, Collection of Primary Data, Various Methods of Data Collection, Data Analysis, Need for Sampling, Sampling Distributions, Sample Size Determination.

Hypothesis Testing and Analysis of Variance: What is Hypothesis, Procedure for Hypothesis Testing, Hypothesis testing of means and samples, limitations of tests of Hypotheses, What is ANOVA, ANOVA Technique, Two- Way ANOVA.

Mathematical Model: Logic Based modeling; Experimental data based modeling; Field data based modeling; Modeling based on design of new system/ Process/ Product; Modeling based on facts generated by earlier investigators.

Reliability of Established Model: Review of theory of reliability; Demonstration of application of theory of reliability of model.

Optimization of Model/Process/ Product: Optimization theory; Application of optimization theory to modeling; Solution to the situation of conflicting optimization conditions. Simulation Technique ANN Simulation; Fuzzy logic Based simulation. Report Writing and Technical Documentation.

II Semester M. Tech. (Geotechnical Engineering)

Course Code: CET596

Course: Research Methodology

Syllabus:

What is Research?, How to do Research, The Objective of Research, Motivation in Research, Types of Research, Various Research Approaches, Significance of Research.

Research Methods, What is Research Methodology, Research Process, What is Research Problem, Various Components of Research Problem, How to Identify the Research Problem, Steps involved in formulation of Research Problem, Necessity and Techniques involved in Defining Research Problem, Feasibility Check.

What is Hypothesis?, its Characteristics, Examples and Types, Hypothesis Testing, Concepts and Procedure of Hypothesis Testing.

Data Collection, Methods of data collection, Primary Data, Secondary Data, Analysis of data, Simple regression, Multiple regression, linear and nonlinear correlation and regression. Optimization, Principle, linear programming technique, simplex method, evolutionary programming techniques.

Model analysis of structures, direct and indirect method, dimensionless terms and their significance, Geotechnical similitude's, optimization of model.

Research Paper and its contents, Choice on topic, Method of writing research paper, Plagiarism including rules of plagiarism.

II Semester M. Tech. (VLSI DESIGN)

Course Code: ENT 558

Course: Research Methodology

Syllabus:

Research: Research Process, Research Concept and demonstration of different types of research task.

Research design and hypothesis: Problem identification and formulation, hypothesis types and verification, methods of research.

Data collection and Modeling: Literature review, data analysis, Logic / Experimental / Field data based modeling, modeling based on design of new system / Process / Product, Modeling based on Statistical Concepts.

System modeling: Simulation modeling, verification & validation of model, Validation of results, optimization of model and case studies.

Reliability of Established Model: Review of theory of reliability, Hazard models, System Reliability.

Optimization Techniques: Introduction of Taguchi method, Steps involved in Taguchi method and its applications for process parameters, Analysis of Variance (ANOVA), its significance and applications.

Report writing and outcome: Structure and contents of report, presentation of findings, formats of report writing, formats of publication in research journals, Referencing in academic writing, Ethics in research, electronic and internet sources, Intellectual Property.