

**DR. A.P.J. ABDUL KALAM TECHNICAL
UNIVERSITY, LUCKNOW**



**COMMON SYLLABUS
FOR**

B. TECH. III YEAR

ALL BRANCHES

ON

CHOICE BASED CREDIT SYSTEM (CBCS)

[Effective from the Session: 2018-19]

RAS501		Managerial Economics	L-T-P: 3-0-0
Unit	Topic		Proposed Lecture
I	Introduction of Engineering Economics and Demand Analysis: Meaning and nature of Economics, Relation between science, engineering, technology and economics; Meaning of Demand, Determinants of Demand, Shifts in demand, Law of Demand, Price Elasticity of Demand &Types, Income Elasticity, Cross price Elasticity, Determinants of Elasticity, uses and importance of elasticity.		06
II	Concept of Supply: Law of Supply, Factors affecting Supply, Elasticity of supply. Demand Forecasting: Introduction, Meaning and Forecasting, Methods or Techniques of Demand Forecasting, Criteria for Good Demand Forecasting, Demand Forecasting for a New Product;		06
III	Cost Analysis- Introduction, Types of Costs, Cost-Output Relationship: Cost Function, Cost-Output Relationships in the Short Run, and Cost-Output Relationships in the Long Run; Short run and long run, Break- Even Analysis; Production functions: laws of variable proportions, law of returns; Economies of scale: Internal and external.		06
IV	Market Structure: Market Structure Perfect Competition, Imperfect competition – Monopolistic, Oligopoly, duopoly sorbent features of price determination and various market conditions.		06
V	Nature and characteristics of Indian economy, concepts of LPG, elementary concepts of National Income, Inflation and Business Cycles ,Concept of N.I. and Measurement., Meaning of Inflation, Types and causes , Phases of business cycle .Investment decisions for boosting economy(National income and per capital income)		06
References:			
<ol style="list-style-type: none"> 1. Premvir Kapoor, Sociology and Economics for Engineers, Khanna Publishing House (Edition 2018) 2. Salvatore D, “Principles of Microeconomics”, Oxford University Press. 3. Koutsoyiannis A, “Modern Microeconomic”, Macmillan Education Ltd. 4. Dwivedi DN, “Principles of Microeconomics”, Pearson Education. 5. Cowell, FA, “Microeconomic Principles and Analysis”, Oxford University Press. 			

RAS502/ RAS602		SOCIOLOGY	L-T-P: 3-0-0
Unit	Topic		Proposed Lecture
I	Industrial Sociology: Nature, Scope and Importance of Industrial Sociology. Social Relations in Industry, Social Organisation in Industry- Bureaucracy, Scientific Management and Human Relations.		06
II	Rise and Development of Industry: Early Industrialism – Types of Productive Systems – The Manorial or Feudal system. The Guild system, The domestic or putting-out system, and the Factory system. Characteristics of the factory system. Causes and Consequences of industrialization. Obstacles to and Limitations of Industrialization.		06
III	Industrialization in India. Industrial Policy Resolutions – 1956.Science. Technology and Innovation Policy of India 2013.		06
IV	Contemporary Issues: Grievances and Grievance handling Procedure. Industrial Disputes: causes, Strikes and Lockouts. Preventive Machinery of Industrial Disputes: Schemes of Workers Participation in Management- Works Committee, Collective Bargaining, Bi-partite & Tri-partite Agreement, Code of Discipline, Standing Orders. Labour courts & Industrial Tribunals.		06
V	Visualizing the future: Models of industrialization- Collectivist, anarchist, free market, environmentalist, etc. Cultural issues, consumer society and sociological concerns.		06
References:			
<ol style="list-style-type: none"> 1. PREM VIR KAPOOR, Sociology & Economics for Engineers, Khanna Publishing House (Edition 2018). 2. GISBERT PASCAL, Fundamentals of Industrial sociology, Tata McGraw Hill, New Delhi, 1972. 2. SCHNEIDER ENGNO V., Industrial Sociology 2nd Ed., McGraw Hill Publishing Co., New Delhi, 1979. 3. MAMORIA C.B. And MAMORIA S., Dynamics of Industrial Relations in India. 4. SINHA G.P. and P.R.N. SINHA, Industrial Relations and Labour Legislations, New Delhi, Oxford and IBH Publishing Co., 1977. 5. S.C. SHARMA, Industrial Safety and Health Management, Khanna Book Publishing Co. (P) Ltd., Delhi (ISBN: 978-93-86173-188) 5. NADKARNI, LAKSHMI, Sociology of Industrial Worker, Rawat, Jaipur, 1998. 6. BHOWMICK SHARIT, Industry, Labour and Society, Orient, 2012. 7. RICHARD BROWN, JOHN CHILD, AND S R PARKER, The Sociology of Industry 1st Edition, Routledge, 2015. 			

RAS601 INDUSTRIAL MANAGEMENT		L-T-P: 3-0-0
Unit	Topic	Proposed Lecture
I	Introduction: Concept and scope of Industrial Management. Productivity: Definition, measurement, productivity index, types of production system, Industrial Ownership.	06
II	Functions of Management, Taylor's Scientific Management Theory, Fayol's Principles of Management, Social responsibilities of Management, Introduction to Human resources management: Nature of HRM, functions and importance of HRM.	06
III	Work Study: Introduction, definition, objectives, steps in work study, Method study: definition, objectives, steps of method study, Work Measurement: purpose, types of study — stop watch methods — steps — allowances — standard time calculations — work sampling, Production Planning and Control Inventory Control: Inventory, Cost, Models of inventory control: EOQ, ABC, VED	06
IV	Quality Control: statistical quality control, Control charts for variables and attributes, Acceptance Sampling- Single sampling- Double sampling plans, Introduction to TQM.	06
V	Project Management: Project network analysis, CPM, PERT and Project crashing and resource Leveling	06
References: 1. Engineering Management (Industrial Engineering & Management)/ S.C. Sharma & T.R. Banga, Khanna Book Publishing Co. (P) Ltd., Delhi (ISBN: 978-93-86173-072) 2. Industrial Engineering and Management/ P. Khanna, Dhanpatrai publications Ltd. 3. Production & Operation Management /PaneerSelvam /PHI. 4. Industrial Engineering Management/NVS Raju/Cengage Learning. 5. Industrial Engineering Management I RaviShankar/ Galgotia.		

RUC501 /RUC601		CYBER SECURITY	L-T-P: 3-0-0
Unit	Topic	Proposed Lecture	
I	Introduction- Introduction to Information Systems, Types of Information Systems, Development of Information Systems, Introduction to Information Security, Need for Information Security, Threats to Information Systems, Information Assurance, Cyber Security, and Security Risk Analysis.	08	
II	Application Security- (Database, E-mail and Internet), Data Security Considerations-Backups, Archival Storage and Disposal of Data, Security Technology-Firewall and VPNs, Intrusion Detection, Access Control. Security Threats -Viruses, Worms, Trojan Horse, Bombs, Trapdoors, Spoofs, E-mail Viruses, Macro Viruses, Malicious Software, Network and Denial of Services Attack, Security Threats to E-Commerce- Electronic Payment System, e- Cash, Credit/Debit Cards. Digital Signature, Public Key Cryptography	08	
III	Developing Secure Information Systems- Application Development Security, Information Security Governance & Risk Management, Security Architecture & Design Security Issues in Hardware, Data Storage & Downloadable Devices, Physical Security of IT Assets, Access Control, CCTV and Intrusion Detection Systems, Backup Security Measures.	08	
IV	Security Policies- Development of Policies, WWW Policies, Email Security Policies, Policy Review Process-Corporate Policies-Sample Security Policies, Publishing and Notification Requirement of the Policies. Evolving Technology Security – Mobile, Cloud, Outsourcing, SCM.	08	
V	Information Security Standards- ISO, IT Act, Copyright Act, Patent Law, IPR. Cyber Laws in India; IT Act 2000 Provisions, Intellectual Property Law: Copy Right Law, Software License, Semiconductor Law and Patent Law. Case Study – Corporate Security	08	
References:			
<ol style="list-style-type: none"> 1. Charles P. Pfleeger, Shari Lawerance Pfleeger, “Analysing Computer Security”, Pearson Education India. 2. V.K.Pachghare, “Cryptography and information Security”, PHI Learning Private Limited, Delhi India. 3. Sarika Gupta & Gaurav Gupta, Information Security and Cyber Laws, Khanna Publishing House 4. Anshul Kaushik, Cyber Security, Khanna Publishing House 5. Dr.Surya Prakash Tripathi, Ritendra Goyal, Praveen Kumar Shukla ,”Introduction to Information Security and Cyber Law” Willey Dreamtech Press. 6. Michael E.Whitman and Herbert J Mattord "Principle of Information Security" Cengage 7. Mike Chapple and David Seidl "Cyberwarfare: Information operations in a connected world" Jones & Bartlett Learning 8. Schou, Shoemaker, “Information Assurance for the Enterprise”, Tata McGraw Hill. 9. CHANDER, HARISH,” Cyber Laws And It Protection ” , PHI Learning Private Limited ,Delhi 10. V.K. Jain, Cryptography and Network Security, Khanna Publishing House, Delhi 			