

M. Tech. in Entrepreneurship and Innovations

(Offered by IT, HS, MS)

FIRST SEMESTER

Sl. No	Sub. Code	Subject	L-T-P	Credits
1	EI1001	Business Economics and Indian Business Environment	4-0-0	04
2	EI1002	Entrepreneurship Theory and Practice	4-0-0	04
3	EI1003	Business Finance	4-0-0	04
4		<u>Elective - I</u> (Management Cluster)	4-0-0	04
5		<u>Elective - II</u> (Engineering / Science Cluster)	4-0-0	04
6	EI1051	Skill Development Sessional	0-0-3	02
7	EI1052	Engineering Sessional	0-0-3	02
TOTAL				24

SECOND SEMESTER

Sl. No	Sub. Code	Subject	L-T-P	Credits
1	EI2001	Marketing Management and Research	4-0-0	04
2	EI2002	Project Formulation and Appraisal	4-0-0	04
3	EI2003	Intellectual Property Rights, Business Law and Taxation	4-0-0	04

4		Elective III (Management Cluster)	4-0-0	04
5		<u>Elective IV</u> (Engineering / Science Cluster)	4-0-0	04
6	EI2051	Interactive Session	0-0-3	02
7	EI2052	Business Plan Presentation: Non Project/ Sessional	0-0-2	01
8	EI2053	<u>Project</u> – I	0-0-2	01
TOTAL				24

THIRD SEMESTER

Sl. No	Sub. Code	Subject	L-T-P	Credits
1	EI3051	Project –II	0-0-11	11
2	EI3052	Project Seminar-I	0-0-2	02
TOTAL				13

FOURTH SEMESTER

Sl. No	Sub. Code	Subject	L-T-P	Credits
1	EI4051	Project –III	0-0-11	11
2	EI4052	Project Seminar –II & Viva Voce	0-0-3	03
TOTAL				14

Total Programme Credit 75

SUMMARY OF COURSES

Sub Discipline: DEPARTMENTAL CORE

SUBJECT CODE	SUBJECT	L-T-P	CREDIT	DEVELOPER
EI1001	Business Economics and Indian Business Environment	4-0-0	04	Dr P P Sengupta
EI1002	Entrepreneurship Theory and Practice	4-0-0	04	Dr P P Sengupta
EI1003	Business Finance	4-0-0	04	Dr Amlan Ghosh
EI2001	Marketing Management and Research	4-0-0	04	Dr G. Bandyopadhyay & Dr. K. Mandal
EI2002	Project Formulation and Appraisal	4-0-0	04	Dr Avijan Dutta
EI2003	Intellectual Property Rights, Business Law and Taxation	4-0-0	04	Dr Anupam De

Sub Discipline: DEPARTMENTAL ELECTIVES_Management Cluster

SUBJECT CODE	SUBJECT	L-T-P	CREDIT	DEVELOPER	Offered in
EI 9011	Consumer Behaviour	4-0-0	4	Dr Kaushik mandal and Dr Neelotpaul Banerjee	1 st semester
EI 9012	Organizational Behaviour	4-0-0	4	Dr P P Sengupta and Dr Durba pal	1 st semester

EI 9013	Motivation and Leadership: Theory and Practice	4-0-0	4	Dr Avijan Dutta	1 st semester
EI 9014	Banking Management	4-0-0	4	Dr Amlan Ghosh	1 st semester
EI 9015	Business Ethics and Corporate Governance	4-0-0	4	Dr Amlan Ghosh	1 st semester
EI 9016	Multi-Media	4-0-0	4	Dr Gautam Bandyopadhyay	2 nd Semester
EI 9017	Strategic Management	4-0-0	4	Dr Amlan Ghosh and Dr Neelotpaul Banerjee	2 nd semester
EI 9018	Supply Chain Management	4-0-0	4	Mr Subhodeep Sarkar	2 nd semester
EI 9019	Training and Development	4-0-0	4	Dr Neelotpaul Banerjee	2 nd semester
EI 9020	Sales Management	4-0-0	4	Dr Kaushik Mandal	2 nd semester
EI 9021	Operations Research	4-0-0	4	Dr. Gautam Bandyopadhyay	2 nd semester
EI 9022	Human Resource Management	4-0-0	4	Dr. Durba pal	2 nd semester
EI 9023	Entrepreneurship in Tourism & Tra				
EI 9024	Entrepreneurship in Service Sector				

Sub Discipline: DEPARTMENTAL ELECTIVES_Engineering Cluster

SUBJECT CODE	SUBJECT	L-T-P	CREDIT	DEVELOPER	Offered in
EI 9041	Technology Management	4-0-0	4	Dr Sadhan De	1 st semester
EI9042	Innovation Management and New Product Development	4-0-0	4	Dr Sadhan De	2 nd semester

Sub Discipline: NON-DEPARTMENTAL CORE

SUBJECT CODE	SUBJECT	L-T-P	CREDIT	DEVELOPER

Sub Discipline: OPEN ELECTIVES *(Not offered to students of MBA)*

SUBJECT CODE	SUBJECT	L-T-P	CREDIT	DEVELOPER

Sub Discipline: LABORATORY & SESSIONAL COURSES

EI1051	Skill Development Sessional		0-0-3	02
EI1052	Engineering Sessional		0-0-3	02
EI2051	Interactive Session		0-0-3	02
EI2052	Business Plan Presentation: Non Project/ Sessional		0-0-2	01

Sub Discipline: PROJECT, SEMINAR etc.

EI2053	<u>Project – I</u>	0-0-2	01
EI3051	Project –II	0-0-11	11
EI3052	Project Seminar-I	0-0-2	02
EI4051	Project –III	0-0-11	11
EI4052	Project Seminar –II & Viva Voce	0-0-3	03

DETAILED SYLLABI OF COURSES

FIRST SEMESTER

EI1001 Business Economics and Indian Business 4 Credits 4-0-0
Environment

1. Economics: Basic Concepts - Introduction to study of Economics and Microeconomics for Engineers, Markets and Prices: definition, extent, Demand and Supply – market mechanism – market equilibrium – elasticity of demand and supply – market equilibrium – short run versus long run, Understanding the effects of changing market conditions, Effects of government intervention in market – price control.

[2 Hours]

2. Theory of Consumer Behaviour - Utility – ordinal utility – cardinal utility – constructing a utility function – some examples of utility function – Marginal Utility (MU), Consumer preferences – assumptions about preferences – indifference curves – perfect substitutes, perfect compliments – the marginal rate of substitution (MRS), The budget constraint – properties of budget set – change of budget line – taxes, subsidies and rationing, Optimal choice – consumer demand – price changes and income changes – normal versus inferior goods – Engel curves – income effect and substitution effect and Giffen good, Price Consumption Curve and the demand curve – Slutsky decomposition – ordinary versus compensated demand curve, Elasticity of demand – direct effect, cross effect, substitutes and compliments, Consumer surplus – compensating variation and equivalent variation.

[3 Hours]

3. Theory of Production, Cost and Firms - Technology of production – production function, Properties of production function with one variable input – average product and marginal product, Law of Diminishing Marginal Returns, Iso-quants, input flexibility, diminishing rate of factor substitution, Iso-cost curves, Optimizing behaviour of the firm, Long-run and the short-run – returns to scale, Cobb-Douglas Production, CES Production Function, Measuring cost: Economic cost versus accounting cost, opportunity cost, sunk cost, fixed cost, variable cost, Long-run versus short-run costs, Economies of scale – short run and long run.

[3 Hours]

4. Analyses of Market Structures: Perfect Competition - Perfect Competition – assumptions – price taking behaviour (Demand curve of an individual firm), Supply schedule – very short period, short period and long period, Equilibrium of an individual firm, Long run industry supply curves – constant, increasing and decreasing cost industry, Efficiency of competitive market – consumer and producer surplus effects of tax and subsidy, price control.

[3 Hours]

5. Monopoly Market - Average Revenue and Marginal Revenue, Monopolist's output decision, the effect of tax on monopoly output and price, Multiplant Monopolist, Price discrimination – First and Second Degree - Two part tariff - Third Degree, Monopoly Power – Mark-up Pricing, Social cost of monopoly, Dead-weight loss, Natural Monopoly.

[2 Hours]

6. General Equilibrium and Welfare Economics - Interdependence in the economy, 2 persons 2 goods Pure Exchange Model – Edgeworth Box Diagram, Contract Curve, Existence of Equilibrium – offer curve, Walras' Law, General Equilibrium with production – 2 good 2 factor case, Contract curve, Production Possibility Frontier, Pareto optimality, Externalities in consumption and production – market failure.

[3 Hours]

7. Introduction to Macroeconomic Theory - Introduction to study of Economics and Macroeconomics for Engineers, Economy as a circular flow between firm sector and household sector – Firm, Household and Government, Basic Macroeconomic Variables - Configurations of Aggregate Output, Employment, Interest and Price Level, Fundamental Macroeconomic Problems – unemployment, inflation, Fluctuation of output – rate of growth – high unemployment, hyper -inflation, depression and stagflation.

[3 Hours]

8. National Income Accounting - Gross National Product (GNP), Gross Domestic Product (GDP), Net National Product (NNP), Personal Income (PI), Relation between GNP, GDP, NNP and PI, Nominal and Real GNP, GNP Deflator, Methods of Measurement of GNP – Measuring Gross Value of GNP – Factor Share Method, Expenditure Method, Value Addition Method, Foreign or External Sector.

[3 Hours]

9. Determination of Equilibrium Level of Income - Aggregate Demand – Components – Consumption, Investment, Government Expenditure and Net Exports, Consumption Function – Consumption and Savings, Investment Function, Aggregate Demand, Equilibrium Output – Keynesian Cross Diagram, Multiplier, Stability of Equilibrium Output, Paradox of Thrift, Government Sector – Government Budget – the Balanced Budget Multiplier, Taxes as a function of income, Multiplier and changes in tax rate, The Goods Market – Consumption Demand –

Investment Demand, Planned Investment and Interest Rate, Goods' Market Equilibrium – IS Curve Derivation.

[4 Hours]

10. Money, Interest and Income - Money: Definition and Components of Money Demand and Money Supply, Money Market Equilibrium – LM Curve, Equilibrium in goods and money market, Dynamic Equilibrium Condition: Changes in Equilibrium levels of income and interest rate, Monetary Policy – Transmission Mechanism, Liquidity Trap – Interest inelasticity, Fiscal Policy and Crowding Out, Effectiveness of Fiscal and Monetary Policy in terms of IS-LM Model, Derivation of Aggregate Demand Function (C-M Curve).

[3 Hours]

11. Inflation and Unemployment - Inflation – Measures, types and effects, Classical Theory of Inflation – Quantity Theory of Money and Inflation, Keynesian Theory of Inflation, Concept of Inflationary Gap, Unemployment and Inflation – Stagflation, Demand pull and Cost push inflation – interaction between demand pull and cost push inflation, Measures of controlling inflation, Unemployment – Natural Rate of Unemployment, Philips Curve and NAIRU, Short and Long Run Philips Curve.

[3 Hours]

12. Output, Price and Employment - Supply of Output – Aggregate Production Function, Aggregate Demand for and Supply of Labour, Aggregate Supply Function – Relation between Aggregate Supply and Price, Shifts in Aggregate Demand and Supply Curve, Determination of Aggregate Output, Employment, Rate of Interest and Price, Comparison of Keynesian and Classical Position – Aggregate Supply and Demand in Classical Theory, Neutrality of Money – Classical Dichotomy – Effects of Monetary and Fiscal, Policy in Classical Framework.

[3 Hours]

13. Structural Changes in the Indian Economy - Globalization and Privatization, Structural Adjustment Programme.

[3 Hours]

14. Industrial Economy of India - Importance of Industrialisation, Growth of Industrial Production and Structural Changes in the Indian Industrial Economy, New Economic Policy, Foreign Direct Investment and Issues of Industrialisation

[4 Hours]

15. International Trade and Balance of Payments - Structure and Direction of Foreign Trade, Problems of Balance of Payments, Issues in EXIM Policy, Trade Sector Reforms

[3 Hours]

TEXT BOOKS:

1. Pindyck, R.S., Rubinfeld, D. L. *Microeconomics*, Pearson Education.
2. Varian H. R. *Intermediate Microeconomics*. EWP.
3. Mankiw N.G. *Macroeconomics*. Worth Publishers.
4. Branson W. H. *Macroeconomics – Theory and Policy (2nd Ed)*. AITBS.
5. Jalan B. *The Indian Economy*. Penguin Books Ltd.

REFERENCE BOOK:

1. Maddala G. S., Miller E. *Micro Economics*. McGraw-Hill International Editions.
2. Dornbusch Fischer., Startz. *Macroeconomics*. McGraw Hill.
3. Mishra and Puri. *Indian Economy*. HPH.

<u>EI1002</u>	Entrepreneurship Theory and Practice	4 credits [4-0-0]
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1. Entrepreneur: Basic Concept, Entrepreneur as Risk bearer, Entrepreneur as Organiser, Entrepreneur as Innovator, Features of Successful Entrepreneur, Entrepreneurial decision process. [5 Hours]

2. Entrepreneurial Problem: Managerial factors, Promotional factors, Organizational factors, Types of Entrepreneur. [8 Hours]

3. Factors affecting Entrepreneurial growth: Economic factors, Non- Economic factors, Psychological factors. [8 Hours]

4. Entrepreneurial Motivation: Meaning, Nature, Motivational cycles, Theories of Motivation: Maslow's theory, Mecclelland theory, Entrepreneurial Motivating factors. [5 Hours]

5. Creativity : Basic Idea, Creative thinking process, How to enhance creativity. [4 Hours]

6. Business Plan: Concepts, Contents of a good business plan, Formulation of business plan, Planning commission guideline for preparing BPR. [5 Hours]

7. Project Appraisal: Concepts, Method, Environmental Clearance, Environmental Restriction for SSI Sector, Environmental clearing hours. [4Hours]

8. Financing of enterprises : Meaning, Sources, Capital Structure, Venture capital [3 Hours]

9. Forms of Business Ownership. [3 Hours]

TEXT BOOKS:

1. Donald F. Kuratko. *Entrepreneurship: Theory, Process, and Practice* ,Cengage Learning, 2008
2. Robert Baron & Scott Shane. *Entrepreneurship: A Process Perspective*, Cengage Learning,2007

REFERENCE BOOKS:

- 1.S. S. Khanka. *Entrepreneurial Development*, S. Chand Limited,2006
- 2.George Vozikis, Timothy Mescon, Howard Feldman,&Eric W Liguori. *Entrepreneurship: Venture Initiation, Management and Development*, Routledge,2013

EI 1003 **Business Finance** **[4-0-0]**

Financial Accounting: Basic concepts of accounting, income statement, Balance sheet. [5]

Financial Statement Analysis: Ratio Analysis, Common size analysis, comparative analysis, trend analysis. [6]

CVP analysis with decision making: Cost-volume-profit analysis with ratios, BEP analysis, Margin of Safety. [6]

Financial Forecasting: Sales Forecast, Preparation of Proforma income statement and balance sheet, Growth and External fund Requirement. [5]

Capital Budgeting Decisions: Cost of capital, Time value of Money, discounting and non-discounting methods (NPV, IRR analysis). [6]

Leverage: Measuring and analysing leverage, Operational, Financial and Total Leverage [5]

Capital Structure Policy: Business, financial and market risk, total risk , Determinants of capital structure, Approaches to estimating target capital structure, variables in capital structure, ROE - ROI Analysis, EBIT - EPS analysis [5]

Sources of Long-Term Finance: Equity Capital and Preference Capital, Debenture Capital, Term Loans and Deferred Credit, Leasing and Hire-Purchase. [3]

Raising Long-Term Finance: Venture Capital, Initial Public Offering, Public Issue by listed companies, Rights Issue, Preferential allotment, Private placement, Term Loans [3]

Finance for Start-ups: crowd financing, VCs, angel investors, loans, Govt schemes etc. [2]

TEXT BOOKS:

IM Pandey (2014), Financial Management, Latest Ed, Vikas publications.

PC Tulsian (2002), Financial Accounting, Pearson India.

Recommended Books:

Ross, Stephen A., Randolph W. Westerfield and Jeffrey Jaffe, (2008), Corporate Finance, 7th edition, Tata McGraw-Hill Publications.

SECOND SEMESTER

EI2001 Marketing Management and Research 4
credits [4-0-0]

1. Understanding Marketing Management with its different orientation, Forecasting Market Demand and market potential estimation using different relevant statistical tools, Market Segmentation and Cluster Analysis as a technique used for segmenting, Market Targeting and Positioning include knowledge on Perceptual Mapping Technique. [10]
2. Various product levels, managing product across Product life Cycle. Differentiating between Product and Service, Special understanding of service marketing, Service quality measurement and Service quality gap model. The stages of New Product development including the application of Conjoint Analysis for concept testing and research design for test marketing. [8]
3. Marketing planning and strategies, Managing Product Portfolio by using relevant analytical tool, Pricing, Promotion and Distribution.[4]
4. Marketing Research Process [2]
5. Basic concept of statistical research: Probability distributions and Sampling Distributions, Sampling Methods -(i) Statistics and Parameter (ii) Types of sampling - random and non-random sampling (iii) Sampling distributions - concept; standard error; sampling from normal populations; Central Limit Theorem; relationship between sample size and standard error; Sample size estimation.[6]
6. Application of Hypothesis Testing and Estimation in marketing research for entrepreneurs-(i) Point Estimation – properties of estimators; the method of moments and

the method of maximum likelihood (ii) Interval Estimation – basic concepts; interval estimates and confidence interval; calculation of interval estimates of mean and proportion from large samples; interval estimation using the t distribution; determining the sample size in estimation. Hypothesis Testing - (i) Basic Concepts – Null and Alternative Hypotheses; Type I and Type II errors; the p – value; the significance level; power of a test (ii) One Sample Tests – hypothesis testing of means when the population standard deviation is known and when it is unknown; hypothesis testing of proportions for large samples (iii) Two Sample Tests – tests for difference between means – large sample sizes and small sample sizes; test for difference between proportions – large sample sizes; testing difference between means with dependent samples[5]

7. Entrepreneurial research on association of attributes and test for equality in case of multiple population -(i) Chi-square as a test of (a) independence and (b) goodness of fit (ii) ANOVA – basic concepts; the F distribution and the F statistic; inferences about a population variance; inferences about two population variances. [5]
8. Multivariate data analysis for research in entrepreneurship (software assisted)-(i) Basic concepts (ii) Types of multivariate techniques (iii) Factor Analysis (iv) Multiple Regression Analysis (v) Discriminant Analysis [5]

TEXT BOOKS:

1. Capon, Noel and Singh Siddharth Sekhar- Managing marketing An applied Approach- Wiley
2. Bajpai Naval-Business Research Methods- Pearson Education

REFERENCE BOOKS:

1. Lind, Marchal and Wathen – Statistical Techniques in Business and Economics(13th edition); TMH
2. Mishra Prahalad- Business Research Methods- Oxford university press
3. Pandey, N and Singh,G- marketing issues in SMEs: Cases from india-Pearson

EI 2002

Project Formulation and appraisal

4 credits [4-0-0]

PROJECT FORMULATION (20)

Project – Concepts – Screening of Project Ideas -

Project identification – Market, Technical, Financial, Economic and

Ecological -Feasibility Report and its Clearance, Project Estimates and Techno-

Economic Feasibility Report,

PROJECT COSTING (7)

Estimating Project Cash Flows – Time Value of Money – Cost of Capital

PROJECT APPRAISAL (7)

Project Appraisal techniques NPV – BCR – IRR – ARR – Urgency – Pay Back Period – Assessment of Various Methods –

Analysis of Risk and sensitivity analysis – Different Methods – Selection of a Project and Risk Analysis in Practice

PROJECT FINANCING (5)

Project Financing – Means of Finance – Financial Institutions – Special Schemes – Key Financial Indicators – Ratios

Project Presentation (6)

Text Book:

1. Prasanna Chandra, Projects – Planning, Analysis, Selection, Implementation Review, Tata McGraw Hill Publishing Company Ltd., New Delhi. 2006.
2. Joy P.K., Total Project Management - The Indian Context, New Delhi, Macmillan India Ltd., 1992

Reference Book:

1. United Nations Industrial Development Organisation (UNIDO) Manual for the
2. Preparation of Industrial Feasibility Studies, (IDBI Reproduction) Bombay, 1987

EI2003

**INTELLECTUAL PROPERTY RIGHTS,
BUSINESS LAW AND TAXATION**

4 credits [4-0-0]

Introduction to Intellectual Property Rights: Rationales for Protection of Intellectual Property Rights, Introduction to the leading International Instruments concerning Intellectual Property Rights: the Berne Convention, Universal Copyright Convention, The Paris Convention, Patent Co-operation Treaty, TRIPS, The World Intellectual Property Organization (WIPO) and the UNESCO.

[1]

Patents: Concept of Patent, Product / Process Patents & Terminology, Duration of Patents- Law and Policy Consideration Elements of Patentability, Novelty, Inventive Steps and Industrial

Application, Non-Patentable Subject Matter, Procedure for Filing of Patent Application and types of Applications, Procedure for Opposition, Preparation of Patent Documents, Lab Notebooks/Log Books/Record Books, Methods of Invention Disclosures, Patent Application and its Contents, Writing of the Patent Document, Patent Infringement, Literal Infringement, Doctrine of Equivalence and Doctrine of Colorable Variation, Contributory Infringement, Defenses to Infringement including Experimental Use, Inequitable Conduct, Patent Misuse, Legal Aspects (Act, Rules, Procedures). [5]

Trademark: The rationale of protection of trademark as (a) an aspect of commercial and (b) of consumer rights, Definition and concept of Trademarks, Different kinds of marks (brand names, logos, signatures, symbols, well known marks, certification marks and service marks), Non Registrable Trademarks, Procedure for Registration of Trademarks, Infringement of Trademarks. [1]

Copyrights: Nature of Copyright, Works in which Copyrights subsist (vi), Author & Ownership of Copyright, Rights Conferred by Copyright, Infringement of Copyrights, Remedies & Actions for Infringement of Copyrights. [1]

Industrial Designs: Registrable Design, Novelty & Originality, Procedure for Registration of Designs, Copyright under Design. [1]

Geographical Indications: Meaning and Nature, Who are entitled for registration, Conditions & Procedure for Registration, Duration of Registration, Benefits of Registration. [1]

Protection of Trade Secrets: International Trade and Trade Secrets, Management and Valuation of Intellectual Property, Strategies for Effective IPR Management, Intellectual Property – Risk Management, Valuation of Intellectual Property, Methods for the Valuation of Intangibles, Discounted Cash Flow (“DCF”) Analysis. [1]

Indian Contract Act, 1872: Essential elements of a valid contract, classifications of contract, Offer and acceptance, Capacity of parties to contract, Free consent, Consideration, Legality of object, Agreement declared void, Performance of contract, Discharge of contract, Remedies for breach of contract. [4]

Sale of Goods Act, 1930: Formation of contracts of sale, Goods and their classification, Price, Conditions and warranties, Transfer of property in goods, Performance of the contract of sales, Right and duties of unpaid sellers, Hire purchase agreement. [2]

Company Law and Practice: Meaning, characteristics and kinds, Lifting the corporate veil. Registration and incorporation, Memorandum of Association and its content, Alteration of Memorandum of Association, Doctrine of ultravires–consequences of ultravires transaction, Articles of Association and its content, Alteration of Article of Association, Relationship of

Memorandum of Association and Article of Association, Rule of constructive notice, Doctrine of Indoor Management, Prospectus- its content, Red herring prospectus, Shelf prospectus, Shares – statutory restrictions, Kinds of share capital, Debt Instruments.

[5]

The Consumer Protection Act, 1986: Objective and salient features, Important Definitions, Practical understanding of Consumer and Consumer Complaint, Unfair Trade Practice, Restrictive Trade Practice, Grievance redressal machinery.

[2]

The Competition Act, 2002: Objective, Definitions, Anti-competitive agreements, Abuse of dominant position, Regulation of combinations, Duties, Powers and Functions of Competition Commission of India.

[1]

Provisions of Direct Tax: Basic concepts, Important Definitions, Explanation of income, Items inclusively defined in the definition of income, Revenue vs. Capital Receipts, Agricultural income, Other Exempted Incomes.

[5]

Residential Status: Residential status of individuals, companies and firms and Tax Incidence of Residential Status.

[2]

Determination of Total Income and Calculation of Tax: Heads of Income, Gross Total Income (GTI), Exemptions and Deductions, Taxable Income (TI), Tax rates and calculation of tax. Taxation of individuals, Partnership, LLP, Companies, Trust, Minimum Alternative Tax (MAT).

[8]

Tax Deducted at Sources: Important Provisions, Implications, Responsibilities of the Payee, Statutory Compliance of TDS.

[2]

Tax Planning & Assessment Procedure: Tax Planning relating to Individuals, Companies and Business Entities, Basic Concepts of Assessment Procedure.

[2]

Indirect Tax: Central Excise: Basis of chargeability of Duties of Central Excise - Goods, Manufacture, Classification and Valuation of Excisable Goods, CENVAT Credit Mechanism, 2 Customs Laws : Levy of Customs Duties, Types of Customs Duty leviable, Tariff Classification & Exemptions, Valuation of Imported and Exported goods, Service Tax: Concept and basis ideas, negative list, Central Sales Tax and VAT: Concept and basis ideas.

[3]

TEXT BOOKS:

- 1) B L Wadehra, Law Relating to Intellectual Property, UNIVERSAL LAW PUB CO. PVT. LTD., 5/e
- 2) N. D. Kapoor, Elements of Mercantile Law, 34/e
- 3) V. K. Singhania and K. Singhania, Direct Taxes Law and Practice, TAXAAMNN'S, Updated by the prevailing Finance Act

- 4) V. S. Datey, Indirect Taxes- Law & Practice, TAXAAMNN'S, Updated by the prevailing Finance Act

REFERENCE BOOKS:

- 1) V. K. Ahuja, Law Relating to Intellectual Property Rights, LEXISNEXIS, 2/e
- 2) S. S. Gulshan, Business Law, 4/e
- 3) M. Singhania and V. K. Singhania, Students Guide to Income Tax, TAXAAMNN'S, Updated by the prevailing Finance Act

DEPARTMENTAL ELECTIVES MANAGEMENT CLUSTER

EI9011

CONSUMER BEHAVIOUR

4 credits [4-0-0]

1. Introduction to Consumer Behavior: Understanding Scope and relevance of consumer behavior in the context of managing entrepreneurial business, STP concept. [4]
2. Consumer Purchase Decision Process: consumer purchase decision, Situational variables, Role of Involvement, Levels of consumer decision making and Basic Model of Consumer Behavior. Case study analysis in reference to entrepreneurship management [4]
3. Internal Determinants of Consumer Behaviour: Perception and its application in entrepreneurial business management, learning memory and product positioning. Application of motivation theories in marketing of an entrepreneurial business. Personality and emotion and their application in marketing an entrepreneurial business [12]

4. External Determinants of Consumer Behavior: Influence of Culture and Subculture; Influence of Social Class, Influence of Reference Groups, and Family Influences. Case analysis in reference to marketing of an entrepreneur. [10]

5. Diffusion of Innovations: Diffusion and adoption of innovations, Types of innovation, Diffusion process, Adoption process, Roger's model of innovation diffusion. [5]

TEXT BOOKS:

1. L.G.Schiffman & L.L.Kanuk , *Consumer Behaviour*, Prentice Hall of India. (*Latest edition*)
2. Del I hawkins, Roger J Best, Kenneth A Coney and Amit Mookherjee, *Consumer Behaviour: Building Marketing Strategy*, TMH Ninth Edition

REFERENCE BOOKS:

1. R.Majumdar, *Consumer Behaviour:Insights from Indian Market*, PHI Learning. (*Latest edition*)
2. J Paul Peter and Jerry C. Olson, *Consumer Behaviour and Marketing Strategy*, McGraw-Hill/Irwin Series in Marketing) 7th Edition
3. Loudon,DL & Dellabitta,AJ, *Consumer Behaviour*, TMH India Limited

EI-9012

ORGANIZATIONAL BEHAVIOUR

4 Credits [4-0-0]

1. **FUNDAMENTALS OF ORGANIZATIONAL BEHAVIOUR:** Basic concept, Organizational Processes, Model of Organizational Behaviour, Systems Theory in perspective, Emerging Challenges for OB. [3]

2. **MANAGEMENT:** Functions, Jobs and Responsibility, Hierarchy, Principles of Management. [3]

3. PERCEPTION AND EMOTIONS: Perceptual Process, Gestalt Principles of Perceptual organization, Social perception in organizations, Perceptual Biases, Developing Perceptual Skill, Emotions (Types), Emotional Labour, Emotional Intelligence at work. [6]
4. PERSONALITY: Concept, Determinants of Personality, Important theories, Personality Dimensions, Measurement of Personality. [3]
5. WORK ATTITUDES: Concept, Components, Attitude change & management; Job Satisfaction-concept, measurement, Antecedents, Consequences; Organizational Commitment: Concept, Types, Application in organizations. [6]
6. MOTIVATION: Concept, Process, Factors affecting Motivation, Need-based Motivation, Constraints of Motivation. [4]
7. GROUP BEHAVIOUR: Group Dynamics, Work Groups, Classification of groups, Stages of group development, Group cohesiveness, Conformity & Deviance, Types of teams, Team Performance, Team Effectiveness. [5]
8. LEADERSHIP: Concept, Background, Process, Contributory factors of Leadership, Constraints, Emotional Intelligence & Leadership. [4]
9. ORGANIZATIONAL CONFLICT: Conflict process, Types of Conflict, Management of Conflicts: Techniques & Styles of Conflict resolution; Negotiation and Bargaining: Process, Issues and Strategies. [5]
10. ORGANIZATIONAL CULTURE: Concept, Forms, Levels (Schein's)- Artifacts (Types), Values, Assumptions; Functions, Theories, Assessment of Organizational Culture; Changing organizational culture-Interventions, challenges. [6]

TEXT BOOKS:

1. Robbins, S. P., Judge, T.A. & Sanghi, S. (2010). *Organizational Behaviour*. New Delhi: Prentice- Hall of India.

REFERENCE BOOKS:

1. Luthans, F. (2014). *Organizational Behaviour: An Evidence-Based Approach*. New Delhi: McGraw-Hill Education (India).

EI 9013 Motivation and Leadership: Theory and Practice 4 Credits [4-0-0]

Concept and need of motivation (2)

Theories of Motivation: (1) Maslow's Hierarchy of Needs : Self-Actualization, (2) Mc Clelland theory of motivation 3. Concept and need of Achievement Motivation, Affiliation Motivation, Power Motivation (15)

What is Leadership? (2)

What makes a good leader? (2)

Leadership Theories (20)

Trait Approach; Skills Approach

Style Approach; Situational Approach

Contingency Theory; Path-Goal Theory Leader-member Exchange Theory; Transformational Leadership

Team Leadership; Psychodynamic Approach

Presentation (4)

Textbooks:

Northouse, P.G (2007). *Leadership Theory & Practice (3rd Ed.)*. Thousand Oaks, CA: Sage. ISBN: 1-4129-4161-X

Kouzes, J.M. & Posner, B.Z (2003). *The Leadership Challenge, (3rd Ed.)*. San Francisco: Jossey-Bass. ISBN: 0787968331

Luthans, Fred: *Organizational Behaviour*. McGraw-Hill International Book Co., Tokyo, 1981.

Reference Book

Good to Great: James C. Collins

EI 9014

Banking Management

[3-0-0]

INDIAN FINANCIAL SYSTEM: Nature and evolution, Role of financial system in economic development, Indian Financial system-Structure; (Financial markets, instruments, regulators and intermediaries). [4]

BANKING SYSTEM IN INDIA: Origin, nature and structure, Types of Banks and their Functions,[Scheduled banks, Commercial banks, Public sector banks, private sector banks (Old and new generation banks), co-operative Banks, RRBs, Local area banks, NBFCs, Mutually aided co-operative societies], RBI-the Central Bank- Structure, Role and Functions of RBI. [5]

SOURCES AND USES OF FUNDS IN BANKS: Basic structure of Bank Balance sheet. [2]

CREDIT POLICY: Credit policy of RBI, significance of credit policy for Banks, Exposure Norms, and Delegation of Powers. Credit culture. [3]

LENDING ACTIVITIES: Principles of lending, various credit products/ Facilities, Credit Appraisal,- Credit rating/ Credit scoring chart. Automated Credit appraisal mechanisms. [3]

PRIORITY SECTOR LENDING: Classification and Definition, Rural Credit Delivery mechanism- Commercial Banks/ RRBs/ LABs/Co-operative institutions. [3]

RURAL BANKING AND MICRO FINANCE: Microfinance, Financial inclusion, NABARD [2]

SME FINANCING: Micro, Small, Medium enterprises – definition and classification, Working capital assessment- Nayak committee recommendations, Appraisal, monitoring, institutional / infrastructural support and nursing of sick industries, SIDBI. [4]

RETAIL BANKING: Basics of retail banking Products and services, Deposit products, Personal, Consumer, Housing loans, Educational loans, Plastic money, Gold Loans etc. [5]

CORPORATE BANKING: Nature of corporate banking and recent developments, multiple banking arrangement, Consortium finance and loan syndication, Infrastructure finance. [3]

MERCHANT BANKING: Management of Public issues: Reasons for going public, and eligibility norms, Offer document and regulatory frame work for public issues (SEBI norms), marketing of issues and post issue activities. [4]

EMERGING TRENDS IN BANKING: Banking in India- Issues and Challenges for the Future. [1]

TEXT BOOKS:

1. (1) Banking Principles and Practices by Mr. M.N. Gopinath. (Snow White).
2. (2) Commercial Banking: B. E. Gup and J. W. Kolari. (Wiley India).

Recommended Books:

3. (3) Financial Institutions and Markets: L. M Bhole (Tata-Mcgraw India).
4. (4) Indian Financial System: B. Pathak (Pearson India).
5. Additional reference study materials are from RBI.

EI 9015

Business Ethics & Corporate Governance

4 credits [4-0-0]

Introduction to Business Ethics: Introduction, Ethical frameworks.

(Case Study: *Satyam Computers*) 4

Concepts and theories of Business Ethics & values: Normative theories, ethical theories, Ethical Principles in Business. 5

Ethics and Start-ups: Importance of ethics in start-ups, Social entrepreneurship. 3

Typical problems in Business Ethics: Marketing Ethics of consumer protection (Case Study: <i>Wockhardt Ltd</i>).	3
Typical problems in Business Ethics: Marketing Ethics (Case Study: <i>The cola conundrum</i>)	3
Typical problems in Business Ethics: Ethics & Finance (Case Study: <i>Xeroxing corruption</i>)	3
Typical problems in Business Ethics: Environmental ethics (Case Study: <i>Documentary : A coke controversy</i>)	4
Typical problems in Business Ethics: Ethics & Society (Case study: <i>BBC Documentary: Dark side of Chocolate</i>).	3
Complexity of Ethical issues: Complexity of Ethical issues, Role of business in society. CSR and Corporate Governance. (Case Study: <i>Satyam</i>).	2
Corporate Governance: Basic concepts, CSR and Corporate Governance (Case Study: <i>Satyam</i>)	3
Aspects of Corporate Governance: Role and functions of BoDs, Independent directors, auditors, audit committees etc.	3
Corporate Governance in India: Development of Corporate Governance practices in India, K M Birla committee report, Cadbury committee reports etc.	2

TEXT BOOK

A.C. Fernando: Business Ethics & Corporate Governance, Pearson Education, 2nd edition

REFERENCE BOOKS

1. Manuel G. Velasquez: Business Ethics: Concepts and Cases, Pearson Education, 7th edition
2. Erik Banks: Corporate Governance, Macmillan, 2004

EI 9016

Multimedia

4 credits [4-0-0]

UNIT I-INTRODUCTION TO ACTION SCRIPT IN FLASH Programming Concepts –
Variables, Data types, conditionals, loops, arrays, Functions, Custom objects - Properties,
Methods and Events – Display List, Timeline Control. [7L]

UNIT II-ADVANCE CONCEPTS IN ACTION SCRIPT USING FLASH BUILDER OOP –
Motion –Drawing with Vectors and Pixels –Text –Sound and video – Understanding XML
[6L]

UNIT III-ACTION SCRIPT IN FLEX Setting up the environment –Using Design mode and Source mode –Adding Interactivity –Using Data Binding –Layout –Creating Rich Forms [7L]

UNIT IV-JAVASCRIPT & PHP JavaScript –Introduction –Variables and Data types –Control Structures – JavaScript Objects. PHP –PHP language Basics –Files and directories –Data Retrieval using PHP 9 [10L]

UNIT V-ADOBE AIR Introduction – Applications, Windows, Menus –File System Integration – Using Local databases –HTML in AIR. Practical: [15L]

Text:

1. Rich Shupe and Zevan Rosser, “Learning ActionScript 3.0: A Beginner’s Guide”, Adobe Developer Library.
2. Chafic Kazoun and Joey Lott, “Programming Flex 3”, Adobe Developer Library.
3. Alaric Cole, “Learning Flex

Reference Books

1. Adobe Developer Library
2. Paul Wilton and Jeremy McPeak, “Beginning JavaScript, 3rd Edition”, Wrox Press Inc., 2007.
3. Mercer, Kent, Nowicki, Squier and Choi, “Beginning PHP5”, John Wiley & Sons, Inc., 2004.

EI 9017	Strategic Management	4 credits	(4-0-0)
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1. Introduction: Strategic Management as a field of study, Views of different schools of thought on Strategy, Strategic Management Process-Mission and Objectives, Strategic Intent.

[5]

2. External Assessment and Competitive Analysis: Environmental factors, Global Environment for MNC’s, Industry Analysis: Porter’s Five Forces Model, The Value-Net. [5]

3. Assessment of Organisation’s Resources and Capabilities: Internal resources and Capabilities,Core competence, Value-Chain Analysis. The Resource-Based View of the Firm.

[5]

4. Strategic Options: Stability, Growth, Retrenchment, Combinations, Mergers/Acquisitions, Diversification, Emerging Business models and Strategies. [5]

5. Strategy Analysis: Different Tools and Techniques in strategy Formulation, Role of Board of Directors: Corporate Governance. [5]

6. Strategy Implementation: Important Issues in Strategy Implementation, Resource Allocation, Leadership Implementation, Structural considerations: Strategy and Structure, Organizational design, Functional Strategies, Marketing, Human Resources, Production/Operations and R &D, Technology, Finance/Accounting. [5]
8. Strategy Evaluation and Control: Strategy Evaluation framework, Criteria for Strategy Evaluation, Measuring and Monitoring Performance. [5]
9. Contemporary Issues in Strategic Management- Strategic Management in Indian Perspective. [5]

TEXT BOOKS:

1. A. Kazmi, *Strategic Management and Business Policy*, McGraw Hill Education. (*Latest edition*)
2. A.A. Thompson & A.J.Strickland, *Strategic Management: Concepts and Cases*, McGraw-Hill. (*Latest edition*)

REFERENCE BOOK:

1. M.A.Carpenter, W.G.Sanders, & P.Salwan, *Concepts and Cases: Strategic Management*, Pearson. (*Latest edition*)
2. D.Roy, Discourses On Strategic Management, Asian Books Pvt Ltd. (*Latest edition*)

EI 9018

Supply Chain Management

Credit Hours: 4

4-0-0

Introduction to SCM: Definition, Close loop supply Chain (to understand the basic domain), Impact of not exchanging information & Bullwhip Effect, Relationship between Value chain & Supply Chain, Technological aspects, objective of the course, Understanding of Various Supply Chains and various Strategies from case studies [7]

Networking & Design of Supply chain: Definition and various types of location problems, **Finding out single and multiple locations for a Bread (Roti) Maker to supply high rising buildings in Kolkata,** application of LINGO to solve real life problems [4]

Distribution Models & Distribution Centre Design: Study of inventory systems, probabilistic inventory models for different type of products, study & application of DRP models, Warehouse location planning, Operations - order picking, packaging, Storage systems –manual and automated, Sorting systems, Warehouse layouts and material flow, Monitoring overall energy and carbon usage, Waste management.[4]

Information Communications Technology and Supply Chains: Supply chain and IT strategy, The role of supply chain systems in business change, Transaction systems, Planning systems, Transport management systems, Supply co-ordination and warehousing systems, Implementation, IT and process mapping tool[5]

Supplier Selection: Make or Buy decision, Outsourcing operations and services, Value added services, Key drivers for outsourcing, Importance of Supplier Selection, study of the way of purchasing, important factors related to supplier selection, mathematical models to carry out it, live case studies on supplier selections, Detailed metrics and Key Performance Indicators (KPIs) [6]

Supply Chain Contracts: Logistics risks and insurance (Liability - value added services, Risk management tools), Third and fourth party logistics solutions (Agents and principals, Determining contractual capacity, Liability, What are 3PL and 4PL solutions and risk profile), When to use a tailor-made contract (Standard conditions, Special agreements, Key commercial clauses), The tender process, Negotiation techniques, Contract management.[4]

Performance Measurement and Improvement: Concepts of logistics and supply chain performance indicators, Analytical performance and benchmarking techniques, Current issues in supply chain performance and optimization [5]

TEXT BOOKS:

Chandrashekar-Supply Chain Management-Oxford

Levy, Simchi-Designing and Managing Supply Chain-TMH

REFERENCE BOOKS:

7. Special Issues in Employee Training and Development: Cross cultural preparation, managing work force diversity, School to work transition, Legal issues, Succession planning, Training and pay systems, Joint union management programs. [7]

TEXT BOOKS:

1. P.N.Blanchard & J.W.Thacker, *Effectiveness Training – Systems, Strategies and Practices*, Pearson Education. (Latest edition)
2. M.Sloman, *A Handbook for Training Strategy*, Jaico Publishing House (Latest edition)

REFERENCE BOOKS:

- 1.A.Landale, *Training and Development – A Complete Handbook*, Infinity Books. (Latest edition)
2. U.Pareek, *Training Instruments for Human Resource Development*, TMH. (Latest edition)

EI9020	SALES MANAGEMENT	4 credits [4-0-0]
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1. Selling: Basic understanding, different types of selling, Marketing and selling, Steps of selling with special emphasis to B2B selling, Industrial selling and channel selling, Prospecting :- Identification of customer and sources for customer generation, Qualifying :- Prioritization of customer using different techniques, Numerical exercise Pre approaching :- Required information and how can it be collected ,Approaching :- Selling theories in relation to buyer seller dyad and other relevant issues of approaching, case study on approaching Sales Presentation :- Different types of sales presentation –A comparative analysis, Objection handling :- Methods for handling and overcoming objections, Case study on Objection handling Buying Signals, Trial close & final close :- closing techniques. Case Study analysis [16]
2. Sales Forecasting Techniques and Market Potential estimation- Numerical Exercise and Software usage [6]
3. Sales Territory Formation: Concept & Methods. Numerical Exercise [6]

4. Sales force sizing, recruitment, different types of recruitment, Selection steps of selection, Sales training:- different methods, , Motivation of the sales force, Performance approval of the sales force, Sales quota and compensation. Numerical Exercise and Case Study Analysis [10]
5. Basic understanding of Sale auditing, a case based discussion on Sales analysis, Cost and Profitability analysis. [7]

TEXT BOOKS:

1. Richard R. Still & Edward W. Cundiff , Govoni : *Sales Management*. Prentice Hall.
- Krishna K Havaldar & Vasant M Cavale : *Sales & distribution Management* . Tata McGraw-Hill

REFERENCE BOOKS:

1. Pingali Venugopal : *Sales and Distribution Management: An Indian Perspective*. SAGE Publication.
2. Tapan Panda and S Sahadev : *Sales & Distribution Management*. Oxford University Press.
3. Dalrymple, Corn and Decarlo: *Sales management* . John Wiley and sons.

EI 9021

OPERATIONS RESEARCH

4 credits [4-0-0]

1. LINEAR PROGRAMMING- a) Formulation of LP Models b) Graphical LP Solution c) Simplex Method d) Artificial Variables – Big M - Method and Two-phase Method e) Duality, Sensitivity Analysis, Shadow Price and their economic interpretation Software package to be used in (b), (c), (d) and (e) above.

[12L]

2. TRANSPORTATION, TRANSHIPMENT AND ASSIGNMENT MODELS -a) Construction of Transportation, Transshipment and Assignment Models b) The Transportation Algorithm c) The Hungarian Method for the Assignment Problem d) The Transshipment problem Software package to be used for implementing the algorithms.

[6L]3. GOAL PROGRAMMING -a) Construction of Goal Programming Models

b) Goal Programming Algorithms

[5L]

4. INTEGER LINEAR PROGRAMMING -a) ILP Algorithms - Branch and Bound, Cutting Plane Algorithm

[5L]

5. DECISION ANALYSIS -a) Decision Making under Certainty – Analytic Hierarchy Process b) Decision Making under Risk and Uncertainty

[4L]

6. MARKOV PROCESSES AND MARKOV CHAINS -a) State transition diagrams b) Calculation of the state of the system at any time period c) Calculation of the long-run system state (both for systems with and without absorbing states): Fundamental Matrix and associated calculations. Application models to be discussed in detail

[5L]

7. QUEUEING MODELS-a) M/M/1 Queues and applications b) M/M/c and M/M/c/k Queues and their applications

[4L]

8. SIMULATION MODELS (Use of package) -a) Construction of Simulation Models b) Generation of Random numbers from discrete distributions Application models to be discussed in detail.

[4L]

TEXT BOOKS:

1. Kasana, H.S. & Kumar, K.D. - Introductory Operations Research; Springer
2. Hillier, F.S. and Lieberman, G.J. : Operations Research (8th edition),

REFERENCE BOOKS:

1. Taha, H.A. : Operations Research - An Introduction (8th edition), Prentice Hall/Pearson Education
2. Winston, Wayne L. – Operations Research: Applications and Algorithms (4th edition); Thomson Learning

DEPARTMENTAL ELECTIVES_ENGINEERING CLUSTER

EI9041

Technology management

4 credits

4-0-0

1. The concept of Technology; Technology Management- What and Why? Embodied and Disembodied Technology, Generic Technology TM- New Paradigm

Technological change and progress. Technology Life cycle- Technology S-curve. Diffusion of Technology

[8]

2.The Economics of Technology- its scope. Engineering economics. Economy of scale. Technological Environment

Technology as a Commodity. Technology at the Macro- economic level.

[4]

3. Technology- a Strategic Management issue.

Design and Integration of Technology Strategy into Business Strategy. Technology based strategies

[8]

4.Technology and Industry structure. Technology and Competitive advantage. Scope of Cooperation rather than competition. Strategic Alliance.

[6]

5.Technology Intelligence(TI)- its importance. Characteristics of TI External versus Internal TI
Technology Planning, Technology Audit. Acquisition and assimilation of external technology.[5]

6.Technological Forecasting (TF). Techniques of TF. Role of TF in Technology strategy formulation.

Technology transfer. International Technology transfer.

[5]

7.Issues in Technology transfer- transfer from Mature industrial nations to low cost countries.

Technology Valuation- the marketplace for Technology

[4]

- Contact hours for each topic indicated within []

TEXT BOOKS:

1. Khalil, Tarek M and Shankar, Ravi- **Management of Technology(2 edition)-** TMH- Special Indian Edition
2. Narayanan , V K **Managing Technology and Innovation for Competitive Advantag-** Pearson

REFERENCE BOOKS:

1. Pierre Dussauge et al-**Strategic Technology Management**-John Wiley and Sons
2. Burgelman, Christensen and Wheelwright-**Strategic Management of Technology and Innovation**-Tata McGraw Hill

EI9042 Innovation Management and New Product Development 4 credits 4-0-0

1. Innovation Management (IM)- an Introduction. The importance of Innovation in the present day businesses. Understanding the process of Innovation- the important constituents. Relation between IM and NPD. [6]
2. Key issues in Innovation Management-Technology cycles- Innovation streams. Disruptive Technology and Ambidextrous organizations.[5]
3. Theories and models of innovation: Linear models, Interactive models. Systems view of organization [5]
4. Managing Innovation within firms. The Dilemma of Innovation management-Pearson's Uncertainty map. Strategy Map. Appropriating the benefits from Innovation. Organization characteristics that facilitate Innovation process. [6]
- 5 . Innovation and Operations Management. Profits from Innovation [3]
6. Management of R&D; Link with Business strategy, The Technology portfolio; Managing R&D projects, Acquisition of External Technology. [5]
7. NPD- Introduction. NPD as a Strategy for growth; Models of NPD- The Platform approach [4]

TEXT BOOKS:

1. Trott, Paul -**Innovation Management and New Product Development**(4th edition)- Pearson
2. Tidd, Joe and Bessant, John -**Managing Innovation**-Wiley India

REFERENCE BOOKS:

3. . Ettlle, John E -**Managing Innovation**-Butterworth-Heinemann
4. **Edited by** Narayanan, V K and Colarelli O'Connor, Gina- **Encyclopedia of Technology and Innovation Management**- Wiley
5. Anna chino, Marc A- **New Product Development**- Elsevier

LABORATORY & SESSIONAL COURSES

EI1051

SKILL DEVELOPMENT SESSIONAL

2 credits [0-0-3]

Hyperlinks & Bookmarks: Create a Bookmark and Hyperlink to a document, Hyperlink to a Place in the same document, Table of Contents-Creating and Update Table of Contents, Creating and editing Footnotes, Endnotes, Captions. Application of Mail Merge in business letters. Use of conditional (with if) Mail Merge. [3]

Getting Started With Excel: Entering labels and values, using AutoSum, editing cell entries, simple formulas, printing options, worksheet views, Managing Windows, Multiple Windows, Splitting Windows, Freezing Panes, Working with Formulas and Functions: Creating complex formulas, inserting and typing a function, moving and copying data, Linking Worksheets and Workbooks, Formatting a Worksheet- Apply Conditional Formatting with complex applications. Working with Charts-Plan, create, move, resize, and format charts, Change chart design and layout, Analyzing Data Using Formulas- Use a variety of functions and complex formulas for Business Data Analysis, Managing Workbook Data-View and Arrange Worksheets, Protect Worksheets, Custom Views, Worksheet Background, Hyperlinks, Grouping Worksheets, Analyzing Table Data- Plan and create a table; add, find and replace, delete, sort, and print a table, Using formulas in a table, Auto filter, Advanced filters, extract data, look up values, data base functions, Data Validation, using subtotals for filtered data, Analyzing Data with PivotTables, Pivot-tables features and its practical applications.

[12]

Getting Started With Ms Access 2007: Application of MS-Access reports features, Query generation, Link with MS-Excel files, Report Generation. [4]

Technical Writing: Introduction, Recommendation Report, Technical Proposal, Progress Report, Business Letters, Cover Letter & Résumé, Writing for Professional Journals, Use of Graphic Aids. [16]

TEXT BOOKS:

- 1) D. Whigham, Business Data Analysis using Excel, OXFORD UNIVERSITY PRESS, 2010
- 2) John F. Balow, EXCEL Model for Business and Operations Management, WILEY, 2/e
- 3) Raman, Meenakshi, and Sangeeta Sharma. Technical Communication. OXFORD UP, 2004

REFERENCE BOOKS:

- 1) K. Scott Proctor, Building Financial Models with Microsoft Excel A Guide for Business Professionals, WILEY., 2/e
- 2) Koneru, Aruna. English Language Skills. New Delhi: MCGRAW HILL EDUCATION (INDIA) PVT. LTD., 2011
- 3) Kumar, Sanjay, and PushpLata. Communication Skills. OXFORD UP, 2011
- 4) Tally Manual:
<http://mirror.tallysolutions.com/Downloads/TDL%20Developer/TDL%20Reference%20Manual.pdf>