MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

MBA PROGRAMME

(Revised Curriculum - 2018)

Objective

To conduct business and industry - oriented MBA Programme following AICTE Model Curriculum for Management (MBA & PGDM), 2018.

Course

- Two Year full-time MBA course (Four Semester).
- Minimum number of class room contact teaching for MBA/PGDM programme should be 96 credits (one credit equals 10 hours) and Internship / Project should be 06 credits i.e., Total 96 + 06 = 102 credits.
- Specialization: Students can opt for any two functional specializations (One Major Area and one Minor Area) from Marketing, Finance, HRM, Operations Management, MIS and Business Analytics
- Each Paper = 4 credits (40 contact hours), 6 Papers / Semester
- Marks per paper: 100 (70 University, 30 College)

Course Structure

Regular Course

Semester	Paper	Credit (1=4 credit)	Contact Hrs. (1 = 10 hrs.)
I (C*)	6	24	240
II (C*)	6	24	240
III (2 C*+4 E**)	6	24	240
Internship/Project #	2	6	60
IV (6 E**)	6	24	240
Course Total	26	102	1020

(# Project: Project Paper + Presentation + Viva)

(C*: CORE PAPERS/E**: ELECTIVE PAPERS)

- On Line Courses (Non-credit, Paper & Marks to be mentioned in the Mark sheet)
- Total : 4(1/Semester)
- Weightage: 4 Credits / Paper = 04 X 4 = 16 credits
- Courses (any 4): Environment Sciences, Indian Society & Culture, Indian Constitution, Entrepreneurship, English Communication, Data Mining, E-Commerce, Agri-Business, Hospitality Management, Health Care Management, Small Business Management, Corporate Social Responsibility.

> Total Credits:

Regular : 102

On-Line (Non-Credit) : 16

Session

- July December (Odd Semesters / 1st& 3rd)
- January June (Even semesters / 2nd& 4th)
- Class / Day : 5 hrs / Day (5 days week)
- Project Work : after 2ndSem Examination, June & July (8 Weeks)

Examination System (Semester - Wise)

- Total Marks = 100 (University 70, College 30)
- Internal (College level): Weightage: 30 (20-Class Test, 10-Presentation & Viva)
- Paperwise Class Test = 2 Tests / every Six weeks
- Average of 2 internal tests (2 components Test, Presentation& Viva)
- External (University Level): 70 (20 = MCQ, 20 = Short Q, 30 = Analytical Q and Cases)
- Semester Grade Point Average : SGPA
- Yearly Grade Point Average: YGPA
- Degree Grade Point Average : DGPA
- Odd Semester (1st& 3rd) Examination : 1st Week of December
- Even Semester (2nd& 4th) Examination : 1st Week of May
- Project Marks (100): Project Report (50), Presentation (30), Viva (20)
- Passmarks: 40 per paper, 50% aggregate

Teaching Methodology

Lecture, Discussion, Presentation, Case Studies, Group Task, Assignments, Projects, Special Lectures by industry professionals.

Internship / Project

Six to Eight weeks Internship Project in industry. Preparation of Project Report on an area of Elective courses (**Finance, Marketing, HRM, Operations Management, Business Analytics and MIS**) under the Faculty guidance. The Project will be examined on Project Report, Presentation and Viva.

General Guidelines

- This MBA curriculum will be applicable from the academic year 2018 19.
- All rules and regulations regarding admission, examination, registration, migration and others shall be according to MAKAUT norms.

CURRICULUM

Core Courses (Six / Semester)

<u>Semester - I</u>

MB - 101	Managerial Economics (Micro)
MB - 102	Organizational Behaviour
MB - 103	Business Communication
MB - 104	Legal and Business Environment(Micro and Macro)
MB - 105	Indian Ethos and Business Ethics
MB - 106	Quantitative Techniques

Semester - II

MR - 501	indian Economy and Policy
MB - 202	Financial Reporting, Statements and Analysis
MB - 203	Marketing Management
MB - 204	Operations Management
MB - 205	Management Information System
MB - 206	Human Resource Management

Semester - III

Core Papers:

MB - 301	Project Management
MB - 302	Corporate Strategy

Elective Papers: Two from any one Functional Area (Major) and two from a different Functional Area (Minor)

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FM/ MM/HR/OM/BA/MIS - 301
FM/ MM/HR/OM/BA/MIS - 302
FM/ MM/HR/OM/BA/MIS - 303
FM/ MM/HR/OM/BA/MIS - 304
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MB – 303 Internship Project and Viva Voce

Semester - IV

Elective Papers (Four from Major Functional Area and Two from Minor Functional area) **

FM/ MM/HR/OM/BA/MIS - 401 FM/ MM/HR/OM/BA/MIS - 402 FM/ MM/HR/OM/BA/MIS - 403 FM/ MM/HR/OM/BA/MIS - 404 FM/ MM/HR/OM/BA/MIS - 405 FM/ MM/HR/OM/BA/MIS - 406

**The Major and Minor Functional areas will be same as chosen in the $3^{\rm rd}$ Semester.

Elective Papers for Third Semester

Functional Specialization (3rd Semester)

MARKETING		OPERATIONS	
CODE	COURSE NAME	CODE	COURSE NAME
MM			SUPPLY CHAIN & LOGISTICS
301	B2B MARKETING	OM 301	MANAGEMENT
MM	DIGITAL & SOCIAL MEDIA		
302	MARKETING	OM 302	OPERATIONS STRATEGY
MM			
303	IMC/ PROMOTION STRATEGY	OM 303	QUALITY TOOLKIT FOR MANAGERS
MM			
304	MARKETING RESEARCH	OM 304	PRICING & REVENUE MANAGEMENT

FINANCE		HUMAN RESOURCE	
CODE	COURSE NAME	CODE	COURSE NAME
FM 301	TAXATION	HR 301	TEAM DYNAMICS AT WORK
FM 302	PROJECT APPRAISAL & FINANCE	HR 302	HR METRICS AND ANALYTICS
FM 303	BEHAVIORAL FINANCE	HR 303	CROSS CULTURAL MANAGEMENT
FM 304	CORPORATE FINANCE	HR 304	ORGANIZATIONAL DESIGN
MIS			BUSINESS ANALYTICS
MIS	DATA MINING FOR BUSINESS		
301	DECISIONS	BA 301	DATA MINING
MIS			
302	E-COMMERCE & DIGITAL MARKETS	BA 302	MARKETING ANALYTICS
MIS			
303	MANAGING SOFTWAREPROJECTS	BA303	BUSINESS FORECASTING
MIS	-		
304	DATA SCIENCE USING R	BA 304	DATA SCIENCE USING R

Elective Papers for Fourth Semester

Functional Specialization (4th Semester)

MARKETING		OPERATIONS		
CODE	COURSE NAME	CODE	COURSE NAME	
MM				
401	CONSUMER BEHAVIOUR	OM 401	SALES & OPERATIONS PLANNING	
MM				
402	RETAIL MANAGEMENT	OM 402	BEHAVIORAL OPERATIONS MANAGEMENT	
MM	SALES & DISTRIBUTION	014 402	ODED ATIONIC DECEARCH ADDITIONS	
403 MM	MANAGEMENT	OM 403	OPERATIONS RESEARCH APPLICATIONS	
404	SERVICE MARKETING	OM 404	SUPPLY CHAIN ANALYTICS	
MM	SERVICE MARKETING	OM 404	MANAGEMENT OF MANUFACTURING	
405	PRODUCT & BRAND MANAGEMENT	0141 403	SYSTEM	
MM	THOUGHT & BIVING IMMIVICENTENT	OM 406	STSTEM	
406	INTERNATIONAL MARKETING		SOURCING MANAGEMENT	
EM 401	ENTREPRENEURSHIP	EM 401	ENTREPRENEURSHIP	
	FINANCE		HUMAN RESOURCE	
CODE	COURSE NAME	CODE	COURSE NAME	
	INVESTMENT ANALYSIS &		MANPOWER PLANNING RECRUITMENT &	
FM 401	PORTFOLIO MANAGEMENT	HR 401	SELECTION	
	MANAGING BANKS & FINANCIAL			
FM 402	INSTITUTIONS	HR 402	EMPLOYEE RELATIONS&LABOUR LAWS	
EM 402	MERGERS, ACQUISITION &	LID 402	COMPENSATION & BENEFITS	
FM 403	CORPORATE RESTRUCTURING	HR 403	MANAGEMENT PERSONNANCE MANAGEMENT SYSTEMS	
FM 404	FINANCIAL DERIVATIVES	HR 404	PERFORMANCE MANAGEMENT SYSTEMS	
FM 405	INTERNATIONAL FINANCE	HR 405	STRATEGIC HRM	
FM 406	FINANCIAL MARKETS & SERVICES	HR 406	INTERNATIONAL HRM	
EM 401	ENTREPRENEURSHIP	EM 401	ENTREPRENEURSHIP	
	MIS		BUSINESS ANALYTICS	
MIS	14113		BUSINESS ANALITIES	
401	IT CONSULTING	BA 401	DATA VISUALIZATION FOR MANAGERS	
MIS				
402	MANAGING DIGITAL PLATFORMS	BA 402	BIG DATA TECHNOLOGY	
MIS				
403	STRATEGIC MANAGEMENT FOR IT	BA 403	STATISTICS FOR BUSINESS ANALYTICS	
MIS	RELATIONAL DATABASE			
404	MANAGEMENT SYSTEM	BA 404	DATABASE MANAGEMENT SYSTEM	
MIS	MANAGEMENT OF INFORMATION	DA 405	DATA ANALYTICS LIGING BYTHOM	
405	TECHNOLOGY	BA 405	DATA ANALYTICS USING PYTHON	
MIS	MANAGING DIGITAL INNOVATION &	BA 406	HR METRICS AND ANALYTICS	

406	TRANSFORMATION		
EM 401	ENTREPRENEURSHIP	EM 401	ENTREPRENEURSHIP

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

FIRST SEMESTER

MB 101: MANAGERIAL ECONOMICS (MICRO)

MODULE I

1. Introduction to Managerial Economics [2L]

- (a) Basic problems of an economic system
- (b) Goals of managerial decision making
- (c) Resource allocation using PPC

2. Demand Analysis

[10 L]

- A. Demand Functions Law of Demand, Explaining the law of demand, Violations of the Law of Demand, Shifts in Demand; Elasticity of Demand: Price Elasticity (at a point and over and interval), Factors affecting price elasticity, Price elasticity and Change in Total Revenue, AR, MR and Price elasticity, Range of Values of Price Elasticity; Income Elasticity, Inferior, Superior and Normal goods, Income Elasticity and Share in Total Expenditure; Cross-Price Elasticity, Substitutes and Complements
- B. Indifference curves, budget line and consumer equilibrium
- C. Introduction to methods of demand estimation (concepts only)

3. Production and Cost Analysis [14L]

- A. Production Function, Short Run and Long Run, Production with One Variable Input, Total Product, Average and Marginal Products, Law of Variable proportions, Relationship between TP, AP and MP.
- B. Short Run Costs of Production, Fixed and Variable Costs, Short Run Total, Average and Marginal Cost and Relationship between them, Short Run Cost Curves, Relationship between AVC, MC, AP and MP; Long run cost curves, Relationship between LAC and SAC, Economies of Scale and Scope.
- C. Production with Two Variable Inputs, Isoquants Characteristics, Marginal Rate of Technical Substitution, Laws of Returns to Scale, Isocost Curves, * #

Finding the Optimal Combination of Inputs, Production of a given output at Minimum Cost, Production of Maximum Output with a given level of Cost, Expansion Path, Finding the Long Run Cost Schedules from the Production Function,

D. Law of supply, elasticity of supply, market equilibrium, changes in equilibrium.

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

MODULE II

4. Alternate Goals of Managerial Firms

[2 L]

- (A) Profit maximization
- (B) Revenue maximization
- (C) Managerial utility maximization

5. Managerial Decision Making under Alternative Market Structures [6 L]

- A. Characteristics of Perfect Competition, #Profit Maximization in Competitive Markets, Output Decision in the Short Run, Shut Down Point, Short Run Supply for the Firm and Industry; Output Decision in the Long Run, Break Even Point, Long Run Supply for the Perfectly Competitive Industry
- **B.** Price and output decision under different market structure Monopoly, Monopolistic Competition, Oligopoly cartel, price leadership.

6. Pricing Decisions

[6 L]

- A. Price Discrimination under Monopoly, Transfer Pricing.
- B. Market Failure
- C. Game theory & Asymmetric information

Suggested Readings:

- 1. Damodaran, Suma Managerial Economics Oxford University Press
- 2. Lipsey & Chrystal Economics Oxford University Press
- 3. Peterson & Lewis Managerial Economics Pearson Education.
- 4. Pindyck and Rubenfeld Micro Economics Pearson Education
- 5. H.L. Ahuza- Managerial Economics, S. Chand
- 6. D.N. Dwivedi- Managerial Economics, Prentice Hall.

MB 102: ORGANIZATIONAL BEHAVIOUR

MODULE I

A. **OB - Overview** - Meaning of OB, Importance of OB, Field of OB, Contributing Disciplines, Applications in Industry. [2L]

MAKAUT/MBA/1ST SEM _(4 Credit: 40 hrs)

- B. **Personality** Meaning of Personality, Determinants of Personality, Theories of Personality, Measurement of Personality, Development of Personality [6L]
- C. **Perception -** Process and Principles, Nature and Importance, Factors Influencing, Perception, Perceptual Selectivity, Social Perception, Fundamentals of Decision making.

[4 L]

- D. Work Motivation Approaches to Work Motivation, Theories of Motivation Maslow's Hierarchy of Need Theory, Alderfer's ERG Theory, Herzberg's Motivation-Hygiene Theory, McClelland's Achievement Motivation Theory, McGregor's Theory X & Y, Vroom's Expectancy Theory, Porter Lawler Expectancy Model [6L]
- E. **Attitudes and Job Satisfaction -** Sources of Attitudes, Types of Attitudes, Attitudes and Consistency, Cognitive Dissonance Theory, Attitude Surveys. [2L]

MODULE -II

- **F. Organization -** Mission, Goals, Characteristics, Types, Organizational Theory-Classical Theories: Scientific Management, Administrative Principals, Bureaucracy, Human Relation Approach, Modern Theories: System Approach, Contingency Approach, Quantitative Approach, Behavioral Approach, Managing Organizational Culture. [6L]
- G. **Group Behavior** Characteristics of Group, Types of Groups, Stages of Development, Group Decision-making, difference work group and work team, Why work Teams, Work team in Organization, Team Building, Organizational Politics. [4L]

- H. Leadership Leadership Theories, Leadership Styles, Skills and influence process, Leadership and power, Examples of Effective Organizational Leadership in India, Cases on Leadership, Success stories of today's Global and Indian leaders. [4L]
- Conflict in Organization Sources of Conflict, Types of Conflict, Conflict Process, Johari Window, Conflict Resolution, Cases on Conflict Resolution.
- J. **Organizational Change -** Meaning and Nature of Organizational Change, Types of Organizational Change, Forces that acts as stimulant to change. Resistance to change, How to overcome resistance to change, Approaches to managing Organizational Change, Kurt Lewin's three Step model, Action research model, Kotter's eight step model.

[4L]

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

Suggested Readings:

- 1. Robbins, S.P. Judge, T.A. & Sanghi, S.: Organizational Behaviour, Pearson
- 2. Luthans, Fred: Organizational Behaviour, McGraw Hill
- 3. Newstrom J.W. &Devis K.: Organizational Behaviour, McGraw Hill
- 4. Aswathappa ,K : Organisational Behaviour ,Himalaya Publishing House
- 5. Shukla, Madhukar: Understanding Organizations Organizational Theory & Practice in India, Prentice Hall
- 6. Sekharan, Uma: Organisational Behaviour, The Mc Graw-Hill Companies

MB 103: BUSINESS COMMUNICATION

Module I:

1. **Principles of Communication** – Definition, Purposes, Types, Process, Models and Barriers

[2L]

- Verbal and Non Verbal Communication Presentation Skills (Planning and Preparation/ Using Visual Aids/ Delivery), Individual and Team Presentations, Public Speaking, Listening and Feedback, Body Language
 [4L+6 P]
- 3. **Written Communication** Stages of Writing, Composing Business Messages, Preparing Notes, Style, Punctuation, Using simple words, Proof Reading. [4L]
- Report Writing Report Planning, Types of Reports, Developing an outline, Nature of Headings, Ordering of Points, Logical Sequencing, Graphs, Charts,

Module II:

- 5. **Internal Communication** Circulars, Notices, Memos, Agenda and Minutes [4L + 2P]
- External Communication Resume/CV, Using Facsimiles (Fax), Electronic Main, Handling Mail [4 L]
- 7. **Writing Business Letters** Formats, Styles Types Request, Enquiry, Placing Order, Instruction, Action, Complaint, Adjustment, Sales, Reference, Good News & Bad News, Acknowledgement

[2L + 4P]

8. Handling Business Information – Annual Report, House Magazine, Press Release, Press Report

[2 L + 2P]

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

Suggested Readings:

- 1. Monipally: Business Communication, Tata McGraw Hill
- 2. <u>Business Communication Essentials (6th Edition)</u> by Courtland L. Bovee & John V. Thill, Pearson
- 3. <u>Business English: A Complete Guide for All Business and Professional Communications by Prem P. Bhalla; UBS Publishers</u>
- 4. The Effective Presentation: Talk your way to success by Asha Kaul; SAGE
- 5. Madhukar: Business Communications: Vikas Publishing House
- 6. Senguin J: Business Communication; Allied Publishers

MB 104: LEGAL AND BUSINESS ENVIRONMENT (MICRO & MACRO)

Module I: Legal Environment

 Legal Aspects of Business - Society, State and Law, Enforceability of Law, Mercantile Law.

[2L]

 Indian Contract Act, 1872 - Contract defined, Elements of valid contract, Classification of contracts, Offer and acceptance, Consideration, Capacity to contracts, Free consent, Legality of object and consideration, Illegal agreements, Termination of contracts, Breach of contract, Indemnity and guarantee, Laws of agency [6L]

 Sale of Goods Act, 1930 - Classification of goods, Conditions & Warranties, Passing of ownership rights, Rights of an unpaid seller, Remedies for breach of Contract of Sale of Goods.

[4L]

4. **Negotiable Instruments Act, 1881** – Definition and characteristics of different types of negotiable instruments, Parties to a negotiable instrument and their capacity, Dishonour of cheques, Discharge from Liability, Crossing of cheques, Bank drafts and Banker's cheques.

[4L]

5. **Companies Act, 1956** – Nature and kinds of companies, Formation, Memorandum, Articles, Prospectus, Capital – shares, debentures, borrowing powers, minimum subscription, Appointment of Directors; Winding up of companies (Including Amendments)

[6L]

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

 Consumer Protection Act, 1986 - Salient features and objectives of the Consumer Protection Act, 1986, Different Consumer redressal Forums, Composition and jurisdiction of district, state and National forum, Mode of complaints, Procedures for disposal of complaints, Penalty.

[4L]

7. Intellectual Property Right- Laws relating to Patents (Patent Act, 1970), Trademarks (Trademark Act, 1999), Copyright (Copyright Act, 1957), Geographical Indications (Registration & Protection) Act, 1999

[4L]

Module II: Business Environment

8. **Economic Indicators** – Consumer Price Index, Interest Rate, Inflation Rate and its impact on Business, Business Risk

[4L]

9. Intellectual Property Regime (WTO Guidelines)

[2L]

10.**Legislation for Anti competitive and Unfair Trade Practice** – Objectives of MRTP Act, 1969, Objectives of Competition Act, 2002, Monopolistic Trade Practice, Anti competitive Agreement, MRTP vs Competition Act

Suggested Readings:

- 1. Sen & Mitra: Commercial law; World Press
- 2. Pathak: Legal Aspect of Business, TMH
- 3. Das & Ghosh: Business Regulatory Framework: Ocean Publication, Delhi
- 4. Pillai & Bagavathi: Business law, S. Chand
- 5. Dutt & Sundaram: Economic Environment of Business, S. Chand
- **6.** Misra, S. K & Puri, D. K.: Economic Environment of Business, Himalaya Publishing

MB 105: INDIAN ETHOS AND BUSINESS ETHICS

Module - I: Indian Ethos

1. **History & Relevance**; Principles, practiced by Indian Companies; Role of Indian Ethos (Management lessons from Vedas, Mahabharata, Bible, Quran, Arthashastra,) Indian Heritage in Business. Ethics Vs Ethos, Indian Vs Western Management; Work ethos and values for Indian Managers

[6L

2. **Relevance of Value-based Management in Global change** - impact of Values on stake holders; Trans-cultural human values; Secular - Vs Spiritual values; value system in work culture

[4 L]

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

- 3. **Stress Management**, meditation for mental health, yoga [2 L]
- 4. **Contemporary Approaches to Leadership** Joint Hindu Family business; Leadership qualities of Karta

[2 L]

5. **Indian systems of learning**- Gurukul system of learning, advantages – disadvantages of Karma, Importance of Karma to managers, Nishkama Karma- laws of Karma; Law of creation- Law of humility- Law of growth – Law of Responsibility- Law of connection – Corporate Karma Leadership

[6 L]

Module - II: Business Ethics

6. **Understanding Business Ethics** – Ethical Values, Myths and Ambiguity, Ethical Codes, Ethical Principles in Business; Theories of Ethics, Absolutism vs. Relativism [6 L]

- 7. **Approaches to Business Ethics**: Teleological Approach, The Deontological Approach, Kohlberg's Six Stages Of Moral Development (CMD)

 [4 L]
- 8. **Managing Ethical Dilemma**: Characteristics, Ethical Decision Making, Ethical Reasoning, The Dilemma Resolution Process; Ethical Dilemmas In Different Business Areas Of Finance, Marketing, HRM and International Business [4 L]
- 9. **Ethical Culture in Organizations** Developing Code of Culture in Organization, Ethical and Value-Based Leadership. Role of Scriptures in Understanding Ethics, Ethics in Business, Strategies of Organizational Culture Building, Ethical Indian Wisdom and Indian Approaches towards Business Ethics. [6 L]

Suggested Readings

- 1. Beteille, Andre Society and Politics in India, OUP
- 2. Chakraborty, S. K. Values and Ethics for Organisations, OUP
- 3. Fernando, A.C. Business Ethics An Indian Perspective, Pearson
- 4. Gupta, Dipankar Social Stratificaiton, OUP.
- 5. Srinivas, M. N.- Social Structure and Caste and Other Essays, OUP.
- **6.** Sandhya, N- Indian Society, Vrindya Publication

MB 106: QUANTITATIVE TECHNIQUES

Module I:

1. Linear Programming: Formulating maximization/minimization problems, Graphical solution, Simplex method, Artificial Variables – Big M – Method, Special cases of LP, Duality of LP and its interpretation, Post Optimality/Sensitivity Analysis, Applications of LP.

[6L]

MAKAUT/MBA/1ST SEM (4 Credit: 40 hrs)

- 2. Transportation Problems: Introduction Mathematical formulation of transportation problem the Transportation method for finding initial solutions-North West Corner Method Least Cost Method Vogel's Approximation method test for optimality steps of MODI method-loops in transportation table Degeneracy. [6L]
- **3. Assignment Problems:** Introduction Mathematical statement of the problem—Hungarian method of solution Maximization case in assignment problem—unbalanced assignment problem restrictions on assignment Travelling salesman problem. [4L]

4. Theory of Games: Introduction - Two person zero sum games - Pure strategies - games with saddle points - rules to determine saddle points - mixed strategies - Game without saddle points - the rules of dominance - Methods of solution for games without saddle points—algebraic methods, graphical methods.
[4L]

Module II:

- **5. Basic Statistics:** Basic Concept (Variables, Population v/s Sample, Central tendency, Dispersion, data Visualization, Simple Correlation and Regression. [4L]
- **6. Probability & Distribution:** Probability Introduction, Rules of Probability, Conditional Probability (Baye's Theorem), Random Variables, Discrete and Continuous Distributions (Binomial, Poisson and Normal), Sampling Types and Distribution. [6L]
- **7. Theory of Estimation:** Estimation estimation problems, standard error, margin of error, confidence error, confidence interval, characteristics of estimators, consistency unbiasedness, sufficiency and efficiency, most sufficient estimators. Point Estimation and Interval Estimation.

[4L]

8. Statistical Inference: Hypothesis Testing, Parametric Test – Z, F, t test, ANOVA, Non Parametric Test – Chi square test (goodness of fit, independence of attributes) Spearman's Rank Correlation Coefficient.

[6L]

Software Packages to be used in illustrating the above methods

Suggested Readings

- 1. Statistics by Wayne L. Winston
- 2. Business Statistics by GC Berry
- 3. Business Statistics, Problems & Solutions by JK Sharma
- 4. Operations Research by A Ravindran, Don T Philips and James J Solberg..
- 5. Operations Research by V K Kapoor
- 6. Operations Research by S K Kalavathy