

# BBA SEMESTER - V

## BUSINESS ENVIRONMENT

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	1611000105 01	Business Environment	3	30	70	3 Hours

### COURSE OBJECTIVES

- To provide basic knowledge basic components of business Environment.
- To develop/enhance ability of student to know impacts of components of business Environment on operations of companies.
- To make enable students to know/measure possible impacts of changes in components of business Environment on functions of business organization.
- To develop ability of students to forecast/indicate possible impacts of change in economic policies and laws on operations of companies,

### COURSE CONTENT

Unit - 1	An introduction to business environment
	Definition of business environment, internal and external environment. (micro & macro environment, economic and non-economic environment)
Unit – 2	LPG
	concepts of liberalization, privatization and globalization, meanings of globalization & privatization, their impacts on Indian economy
Unit - 3	Indian tax system
	Meaning of tax, its types, canons of good tax system, tax revenues for central and state governments,

Unit – 4	Public finance
	Fiscal policy-objectives and tools, public debt, public revenue and public expenditure. Central budget
Unit – 5	International institutions
	History, objectives, structure, functions, achievement and failures of World Bank, International Monetary Fund, World Trade Organization and European union.

### REFERENCES

- Business Environment: Francis Cherunilam - Himalaya Publishing house
- Essentials of Business Environment: K. Aswathapa- Himalaya Publishing house
- Indian economy: VK Puri & SK Misra - Himalaya publication house

## BUSINESS LAW

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010502	Business Law	3	30	70	3 Hours

### COURSE OBJECTIVES

To impart preliminary knowledge in respect of Laws to be followed while carrying the business.

### COURSE CONTENT

Unit - 1	Indian Contract Act-1972
	Nature of contract; Classification; 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.. Special Contracts: Indemnity; Guarantee; Bailment and pledge; Agency.

Unit – 2	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; Unpaid seller and his rights, sale by auction; Hire purchase agreement.
Unit - 3	Negotiable Instrument Act : 1881
	Definition of negotiable instruments; Features; Promissory note; Bill of exchange & cheque; Holder and holder in the due course; Crossing of a cheque,. Types of crossing; Negotiation; Dishonour and discharge of negotiable instrument.
Unit – 4	The Consumer Protection Act -1986
	Salient features; Definition of consumer; Consumer Protection Council, Grievance redressal machinery,
Unit – 5	The Right to Information Act- 2005
	Salient features and coverage of the Act, definition of terms information, right, record, public authority; obligations of public authorities, requesting information and functions of Public Information Officer.

## REFERENCES

- Elements of Mercantile Law, N. D. Kapoor, Sultan Chand & Sons, New Delhi
- Indian Contract Act, Sale of Goods Act and Partnership Act; Desai TR : SC Sarkar & Sons
- Mercantile Law, S.S. Gulshan :,Excel Books
- Legal Aspect of Business, Pathak:,TMH
- The Negotiable Instruments Act; Khergamwala JS : NM Tripathi
- The Principles of Mercantile Law, Singh Avtar , Eastern Book Company
- Business Regulatory Framework, Maheshwari & Maheshwari:, Himalaya Publishing
- Business Law , Kapoor ND : Sultan Chand & Sons

## PRODUCTION AND OPERATION MANAGEMENT

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010503	Production & Operations Management	3	30	70	3 Hours

### COURSE OBJECTIVES

To understand the production and operation function and familiarize students with the technique for planning and control.

### COURSE CONTENT

Unit - 1	Introduction to Operations and Operations Management
	Concept, Meaning, Need and Objectives of Production and Operations Management. Development of Production Function. Relation of Production with other functions like design function, purchase function, plant layout, maintenance, etc. Product Classification. Product selection (steps for identifying the product for manufacturing), Product development (market pull, technology push, inter-functional approach). Research and Development and Design of a Product.
Unit – 2	Maintenance Management
	Need of maintenance management, equipment life cycle (Bathtub curve), measures for maintenance performance (MTBF, MTTR and availability). <b>Lean production:</b> Definition of lean production, lean Demand Pull logic, waste in Operations, elimination of waste,
Unit - 3	Facilities planning
	Production planning, level of automation, facilities required for manufacturing, where to produce, arranging required facilities, how to produce, etc. Production Systems, Plant Layout. <b>Differences between various types of layout:</b> Product layout, Process layout, Cellular layout, Static Layout, etc) Various types of Material Handling Systems, their principles, distinguishing features, uses. Overview of various types of maintenance systems Meaning/Functions/Nature of Production, Planning & Control

Unit – 4	Importance of Materials Management
	Corporate policy, organization, research, planning, source selection, Value Analysis and Value Engineering, Purchase management, importance of purchasing, purchasing systems. Inventory management, its prime importance, Inventory Control Techniques - ABC, FSN, GOLF, VED, SOS.
Unit – 5	Warehousing and Stores management
	Centralized and de-centralized stores. Brief introduction to various methods of stores accounting. Need for stock verification. Management of scrap/waste/surplus/obsolete materials. JIT, KANBAN, KAIZEN, Push V/s Pull concept. Materials Requirement Planning. Explanation of EOQ - its advantages/limitations/modifications. Types of inventory systems (P-system and the Q-system). Need for safety stock/reserve stock. Control Charts. X-bar chart, R-chart, p-chart, c-chart. Graphical representation

### REFERENCES

- Production and Operation Management, S.A.Chunawalla and D.R. Patel, Himalaya Publishing House, Mumbai
- Production and operation Management K. Aswathappa and K. ShridharaBhat ,Himalaya Publishing House, Mumbai
- Operations Management, Mahadevan B, Pearson Education, New Delhi,2008
- Operations Management, Russel& Taylor, Pearson Education, New Delhi,2008
- Operations Management, Chase, Jabocs and Acquiliano, Tata McGraw Hill,
- Operations Management, Krajawski&Ritzman, , Pearson Education, New Delhi, 2003
- Production and Operations Management, BediKanishka, , OXFORD University Press
- Production and Operation Management, Bhatt K.S, Himalaya Publishing House,

## DIRECT TAXES

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010504	Direct Taxes	3	30	70	3 Hours

## COURSE OBJECTIVES

To develop conceptual understanding regarding Direct Tax Laws and to Prepare Returns and make them introduced with assessment procedure.

## COURSE CONTENT

**Marks:** 60 % Marks for Practical Problems and 40 % Marks for theory questions.

Unit - 1	General
	<ul style="list-style-type: none"><li>• Definitions: Person, Income, Assessee, Previous Year, Assessment Year, Gross Total Income, Total Income, Agricultural Income. Heads of Income</li><li>• Residential status and Incidence of Tax</li></ul>
Unit – 2	
	<ul style="list-style-type: none"><li>• Incomes exempt from Income Tax (Section 10)</li><li>• Deductions from Gross Total Income (Section 80C, 80CCC, 80CCD, 80CCG, 80D, 80DD, 80DDB, 80E, 80EE, 80TTA, 80U)</li></ul>
Unit - 3	
	<ul style="list-style-type: none"><li>• Income from Salary (Section 15, 16, 17 and Rules 3, Section 10(7), 10(10), 10(10A), 10(AA), 10(13A)</li><li>• Income from House Property (Sec. 22 to 25 only)</li></ul>
Unit – 4	
	<ul style="list-style-type: none"><li>• Income from Business and Profession (Section : 28,29,30,31,32,35,35(2AB),35ABB, 35AC, 35AD, 35CCA, 35CCC, 35CCD, 35D,36 ,37,40,40A, 40A(2), 40A(3), 40a(7), 41, 43B, 44AA &amp; 44AB)</li><li>• Capital Gain (Section 45, 47, 48, 49, 50 only)</li></ul>
Unit – 5	
	<ul style="list-style-type: none"><li>• Income from Other Sources (Section 56, 57, 58, 59)</li><li>• Income Tax Authorities</li></ul>

### NOTE:

- The Syllabus is restricted to study of specified section only.
- The Law In force on 1st April immediately preceding the commencement of Academic year will be applicable for ensuing Examinations.
- Study of rules is not implied for unless and until specifically mentioned.

**REFERENCES**

- Students guide to income tax- VinodSinghania, Taxman Publication
- Systematic approach to income tax- GirishAhuja& Gupta, Bharat Law Publication
- Income Tax: T M Manoahan
- Direct Tax ready reckoner, N. V. Mehta, Kuber Publication

**ETHICS AND CORPORATE SOCIAL RESPONSIBILITY**

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010505	Ethics & corporate social responsibility	3	30	70	3 Hours

**COURSE OBJECTIVES**

The objective of this paper is to make the students more clear about the importance of ethics in business and practices of good corporate governance. It also talks about the corporate social responsibility.

**COURSE CONTENT**

Unit - 1	
	Business ethics: Meaning of ethics, why ethical problems occur in business. Ethical principles in business: Utilitarianism: weighing social cost and benefits, Rights and duties, Justice and fairness, ethics of care, Integrating utility, rights, justice and caring, An alternative to moral principles: virtue ethics, Moral issues in business: Worker's and employee's rights and responsibilities, Profit maximization vs. social responsibility.

Unit – 2	
	Corporate governance: concept, Need to improve corporate governance standards, Features of good governance, Role played by regulators to improve corporate governance, accounting standards and corporate governance, corporate disclosure, insider trading.
Unit - 3	
	The Board –Quality, Composition and role of Board, Outside Directors on the board (independent, nominee), Executive and Non- Executive directors, SEBI clause 49, directors and financial institutions in enhancing corporate governance, critical issues in governance of board directors, CEO Duality.
Unit – 4	
	Role of auditors in enhancing corporate governance, duties and responsibilities of auditors, corporate governance and internal auditors, Whistle blowing: Kinds of whistle blowing, precluding the need for whistle blowing.
Unit – 5	
	Discrimination, affirmative action, and reverse discrimination: Equal employment opportunity, Affirmative action, Preferential hiring, Corporate social responsibility: Meaning, Evolution of corporate social responsibility, common indicators for measuring business social performance, reporting social responsibility measures in annual report.

## REFERENCES

- Manuel G Velasquez : Business ethics- concepts and cases Pearson.
- LuthansHodgetts and Thompson: Social issues in business, Macmillan USA
- A.C. Fernando: Business Ethics Pearson Education.
- A.C. Fernando: Corporate Governance Pearson Education.
- Adrian Davies: Strategic approach to corporate governance Gower Pub Co.
- N. Gopalswamy: Corporate governance a new paradigm A H Wheeler Publishing Co Ltd.
- Marianne M Jennings: Cases in Business Ethics Indian South-Western College Publishing
- Kevin Gibson: Ethics and Business, An Introduction, Cambridge Applied Ethics Cambridge University Press
- Bhanumurthy K V: Ethics and Social Responsibility of Business, Pearson



## COST ACCOUNTING

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	1611000105 06	Cost Accounting	3	30	70	3 Hours

### COURSE OBJECTIVES

To Impart the Knowledge of Basic cost concepts, element of cost & Preparation of Cost Sheet and to provide basic knowledge of important Methods & Techniques of costing.

### COURSE CONTENT

**Marks:** 60 % Practical Examples, 40 % Theory.

Unit - 1	Introduction
	Nature, Scope and Need of Cost Accounting, Concept of cost, Objectives of cost Accounting, Advantages and Limitations of Cost Accounting, Difference between Financial and Cost Accounting, Cost Unit & Cost Centre. <b>Element of Cost:</b> Cost Concept, Classification of Cost, Cost Unit and Cost center, Cost Sheet.
Unit – 2	Accounting for Materials Cost
	Definition and Types of Materials, Material control: Concept and techniques; Pricing of material issues; Treatment of material losses.
Unit - 3	Accounting for Labour Cost
	Definition and Types of Labour Cost, Labour cost control procedure; Labour turnover; idle time and overtime; Methods of wage payment-time and piece rates; Incentive schemes.
Unit – 4	Accounting for Overheads

	Definition of Overhead Cost, Classification of Overheads, Allocation, apportionment and Absorption of overheads; Determination of overhead rates; Under and over absorption, and its treatment.
Unit – 5	Cost Ascertainment
	<b>Job and Batch Costing</b> – Meaning, Features, Advantages and Limitation; <b>Contract Costing</b> – Basic Concepts, <b>Process Costing</b> - Meaning, Features, Normal and Abnormal Loss/Gains, <b>Operating Costing</b> – Meaning, Features & Objectives. (Simple practical examples for preparing Cost Sheet may be asked in Examination)

### REFERENCES

- Cost Accounting Principles and Practice: M N Arora, Vikas Publishing
- Cost Accounting: S P Jain and K L Narang, Kalyani, New Delhi
- Advanced cost Accounting by Saxena and Vasistha.
- Cost Accounting by S.N.Maheshwari, Sultan Chand
- Cost Accounting by Ratnam.
- Cost Accounting Principles and Practice: M N Arora, Vikas Publishing
- Cost Accounting: S P Jain and K L Narang, Kalyani, New Delhi
- Practical Costing: P C Tulsian, Vikas Publishing
- Advanced Problems and Solutions in Cost Accounting: S N Maheshwari, Sultan Chand.
- Cost Accounting: Theory & Practice: Bhabatosh Banerjee, Prentice Hall of India Ltd., New

## ADVANCED MARKETING MANAGEMENT

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	1611000105 07	Advanced Marketing Management	3	30	70	3 Hours

### COURSE OBJECTIVES

Marketing theories and practices across the globe are drastically changing. Course contents of the course 'Advanced Marketing Management' contains some advanced and varied areas, topics and concepts to help students assimilate modern marketing theory and practices across the globe. The paper will help the student to develop necessary marketing knowledge and skills that will be instrumental in their career.

<b>COURSE CONTENT</b>	
Unit - 1	Marketing Research Practices
	<p><b>Research Design:</b> Concepts and Types (Exploratory, Descriptive, and Causal) <b>Sampling:</b> Concept of Sample and Sampling, Uses and Type of Sampling; <b>Data Collection Tools:</b> Questionnaire (Concept, Key Issues in Questionnaire Preparation, Types of Question with Examples); <b>Data Collection Methods:</b> Survey Method, Observation Method, Experimental Method, and Panel Method. <b>Research Report:</b> Concept, Qualities, and Format; <b>Marketing Information System (MIS):</b> Concept and Components</p>
Unit – 2	Managing Advertising
	<p><b>Advertising Message:</b> Concept, Process of Developing Advertising Message; <b>Ad Copy:</b> Concept and Layout; <b>Advertising Media:</b> Concept, Types, Factors, and Concept of Media Scheduling; <b>Advertising Budget:</b> Concept, Methods; Factors; <b>Functioning of Ad Agencies:</b> Concept, Functions, and Benefits, Brief Profile of Some Leading Ad Agencies; <b>Social Issues of Advertising:</b> Positive and Negative Outcomes of Advertising; <b>Measuring Advertising Effectiveness:</b> Need and Methods (Communication Effect Test and Methods Sales Effect Test)</p>
Unit - 3	International Marketing
	<p>Concept and characteristics; Need or Importance of International Marketing, Forces Leading to Growth of International Marketing; Concept of PULL and PUSH Forces; International Marketing Environment: Concept and Variables, Practical Difficulties (Challenges); Key Decisions in International Marketing (Each decision should be Discussed in Detail with Practical Examples); Primary Idea of International Agencies/Organisations Affecting International Marketing.</p>
Unit – 4	New Marketing Realities
	<p><b>Direct Marketing and Online Marketing:</b> Concept of Direct and Online Marketing; Activities, Cyber Marketing Process; Benefits and Limitations, <b>Green Marketing:</b> Concept, Need and Importance; Green Marketing Efforts and Managerial Implications; <b>Customer Relationship Marketing (CRM):</b> Concept and Importance; Components of CRM Programme, Concept of e-CRM, Common Drawbacks in CRM Programme</p>
Unit – 5	Case Study

	Concept of Case and Case Study; Role of Case Study and Case Study Guidelines; <b>Case Analysis:</b> Small and medium size case for case study relating to the topics in the syllabus ( <b>Note:</b> At least two cases should be discussed in the class room. Note: In examination only one or two cases shall be asked for analysis)
<b>OR</b>	
Unit - 5	Some Advanced Concepts In Modern Marketing (15%)
	<ul style="list-style-type: none"> <li>• Customer Database – Concept of Data Warehouses, and Data Mining</li> <li>• Brand Equity: Concepts, Building Brand Equity, Measuring Brand Equity, and Managing Brand Equity</li> <li>• Word of Mouth: Concept and Media</li> <li>• Market Logistics: Concepts and Decisions</li> <li>• Demand Management: Concepts, Demand Situations and Marketing Management Tasks</li> </ul>
<p><b>Important Note for Unit 5:</b> A student can select any one; there will be two options in the examination, each with two questions. There will be one or two cases from ‘Case Study’ and two questions from ‘Some Advanced Concepts in Modern Marketing’; student can opt any one.</p>	

<b>REFERENCES</b>	
	<ul style="list-style-type: none"> <li>• Philip Kotler, Kevin Lane Keller, Abraham Koshy, and MithileshwarJha, <i>Marketing Management</i>, 14<sup>th</sup> edition, Person education, New Delhi, 2012</li> <li>• R. B. Rudani, <i>Basics of Marketing Management</i>, S. Chand &amp; Company, New Delhi, 2015</li> <li>• S.A. Sherlekar, <i>Marketing Management</i>, Himalaya Publishing House, Mumbai, India, 2009</li> <li>• John Quelch, and KasturiRangan, <i>Marketing Management: Text and Cases</i>, Tata McGraw-Hill, New Delhi, 2005</li> <li>• V. S. Ramaswamy and S. Namakumari, <i>Marketing Management</i>, Global Perspective Indian Context, 4<sup>th</sup> Edition, Macmillan Publishers India Ltd, New Delhi, 2010</li> <li>• R. Shrinivasan, <i>Case studies in Marketing</i>, The Indian Context, PHI Learning, Private Limited, New Delhi, 2012</li> </ul>

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010508	Investment Banking & Financial Services	3	30	70	3 Hours

### **COURSE OBJECTIVES**

The objective of this paper is to know the different aspects of Investment banking, mergers and acquisition and the detailed SEBI guidelines on issue management.

### **COURSE CONTENT**

Unit - 1	Introduction
	An Overview of Indian Financial System, Investment Banking in India, Recent Developments and Challenges ahead, Institutional structure and Functions of Investment / Merchant Banking; SEBI guidelines for Merchant Bankers, Registration, obligations and responsibilities of Lead Managers, Regulations regarding Continuance of association of lead manager with an issue
Unit – 2	Issue Management
	Public Issue: classification of companies, eligibility, issue pricing, promoter's contribution, minimum public offer, prospectus, allotment, preferential allotment, private placement, Book Building process, designing and pricing, Green Shoe Option; Right Issue: promoter's contribution, minimum subscription, advertisements, contents of offer document, Bought out Deals, Post issue work & obligations, Investor protection, Broker, sub broker and underwriters
Unit - 3	Leasing and Hire Purchase
	<ul style="list-style-type: none"> <li>• Concepts of leasing, types of leasing – financial &amp; operating lease, direct lease and sales &amp; lease back, advantages and limitations of leasing, Leasing rental determination; Finance lease evaluation problems (only from Lessee's angle),</li> <li>• Hire Purchase interest &amp; Installment, difference between Hire Purchase &amp; Leasing, Choice criteria between Leasing and Hire</li> </ul>

	Purchase,
Unit – 4	Venture Capital and Credit Rating
	<ul style="list-style-type: none"> <li>• Venture Capital: Concept, history and evolution of VC, the venture investment process, various steps in venture financing, incubation financing.</li> <li>• Credit Ratings: Introduction, types of credit rating, advantages and disadvantages of credit ratings, Credit rating agencies and their methodology, International credit rating practices.</li> </ul>
Unit – 5	Securitization
	concept, securitization as a funding mechanism, Traditional and nontraditional mortgages, Graduated-payment mortgages (GPMs), Pledged-Account Mortgages (PAMs), Centralized Mortgage obligations (CMOs), Securitization of non-mortgage assets, Securitization in India.

#### REFERENCES

- M.Y.Khan: Financial Services, Tata McGraw –Hill.
- Machiraju: Indian Financial System, Vikas Publishing House.
- J.C.Verma: A Manual of Merchant Banking, Bharath Publishing House.
- K.Sriram: Hand Book of Leasing, Hire Purchase & Factoring, ICFAI, Hyderabad.
- Ennew.C.Trevor Watkins & Mike Wright: Marketing of Financial Services, Heinemann Professional

### MANAGEMENT OF INDUSTRIAL RELATIONS

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	161100010509	Management of Industrial Relations	3	30	70	3 Hours

#### COURSE OBJECTIVES

To acquaint students with concepts of Industrial Relations and

various legislations related to Labour Welfare and Industrial Relations.

<b>COURSE CONTENT</b>	
Unit - 1	Basic framework of Industrial relations:
	Concept of Industrial relations characteristics, objectives , significance and factors affecting industrial relations, parties in industrial relations- workers employers and government, trade unions, approaches to industrial relations, globalization and industrial relation, Suggestions to improve Industrial Relations in India
Unit – 2	Industrial Disputes in India
	Meaning–Difference between Industrial Disputes and Industrial conflict – Forms of Industrial Disputes– Impact of Industrial Disputes– Difference between Human Relations and Industrial Relations– Prevention and settlement of industrial disputes, Industrial disputes Act 1947
Unit - 3	Basic framework of Labour Legislations
	Salient features, coverage and provisions relating to The Payment of Wages Act 1936, The Payment of Gratuity Act 1972, The Minimum Wages Act 1948 and The Payment of Bonus Act 1965 , Factories Act 1948 and The Industrial Employment (Standing Orders) Act 1946.
Unit – 4	Worker’s Participation in Management
	Definition, origin, Nature, objectives, forms of Worker’s Participation in management- Works Committee - Joint management Councils, Shop councils - Joint councils, board level participation, Concept and working of Quality circles, Employee Empowerment
Unit – 5	Trade Unionism, Collective Bargaining and Negotiation
	Concept, Functions of Trade Unions, Types of Trade Unions, Problems of Trade Unions in India. Collective Bargaining –Concept, Principles– Forms of Collective Bargaining, Negotiation - Effective negotiation, Current trends, issues and practices in Negotiation in Indian Industries.

## **REFERENCES**

- ArunMonappa, Industrial Relations, Tata McGraw-Hill
- C. B. Mamoria, SatishMamoria& S. V. Gankar, Dynamics of Industrial Relations.
- C. S. VenkataRatnam, Industrial Relations, Oxford
- G. A. Armstrong: Industrial Relations-An Introduction,George G. Harrap& Co. Ltd., London.
- P. C. Tripathy: Personnel Management and Industrial Relations, Sultan Chand & Sons, New Delhi.
- P.R.N. Sinha,InduBalaSinha and SeemaPriyadarshaniShekhar: Industrial Relations, Trade Unions and Labour Legislations, Pearson
- RatnaSen, Industrial Relations in India: Shifting Paradigm, Macmillan
- S. C. Srivastava: Industrial Relations and Labour Laws, Vikas Publishing House, New Delhi

## FUNDAMENTALS OF OPERATIONS RESEARCH

Name of Course	Semester	Core/Elective/Allied/Practical/Project	Course/Paper Code	Course/Paper Title	Credit	Internal Marks	External Marks	External Exam Time Duration
B.B.A.	V	Core	1611000105 10	Fundamentals of operations research	3	30	70	3 Hours

### COURSE OBJECTIVES

The objective of this paper is to familiarize the students with basic techniques of operations research.

### COURSE CONTENT

Unit - 1	Introduction of Operations Research
	<ul style="list-style-type: none"> <li>• Nature of Operations Research</li> <li>• Characteristic of Operations Research</li> <li>• Methodology of Operations Research</li> <li>• Models of Operations Research</li> </ul>



	<ul style="list-style-type: none"> <li>• Applications of Operations Research</li> </ul>
Unit – 2	Linear Programming -1
	<ul style="list-style-type: none"> <li>• Meaning and uses of L.P.</li> <li>• Various terms which are used in L.P.</li> <li>• Mathematical Formulation of the L.P.</li> <li>• Assumptions and Limitations of L.P.</li> <li>• Optimum solution of L.P. by Graphical Method</li> <li>• Typical Examples.</li> </ul>
Unit - 3	Linear Programming -2
	<ul style="list-style-type: none"> <li>• Slack and Surplus variables.</li> <li>• Optimum solution of L.P. by simplex Method (for two &amp; three variables only)</li> <li>• Transformation of a given problem into dual problem and its optimum solution.</li> <li>• Typical Examples.</li> </ul>
Unit – 4	Transportation Problem
	<ul style="list-style-type: none"> <li>• Introduction of T.P.</li> <li>• Initial method of solving T.P. <ul style="list-style-type: none"> <li>(1) North-West corner rule method</li> <li>(2) Matrix minima method</li> <li>(3) Vogel’s approximation method</li> </ul> </li> <li>• Optimum method for solving T.P. <ul style="list-style-type: none"> <li>(1) MODI method,</li> <li>(2) Stepping stone method</li> </ul> </li> </ul>
Unit – 5	Assignment methods
	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Hungarian assignment method</li> <li>• Some typical examples</li> <li>• Travelling sale man problem</li> </ul>

## REFERENCES

- Operations Research Theory and Applications (2<sup>nd</sup> edition): J K Sharma (Macmillan India)
- Operations Research Techniques for Management : V.K. Kapoor (Sultan Chand & Sons)
- Operations Research: KantiSwarop, P.K. Gupta & Man Mohan (Himalaya Publication)
- Quantitative Techniques in Management: N.D. Vora ( TATA McGraw Hill)