

SEMESTER VI
B.A. (HONOURS) BUSINESS ECONOMICS

DISCIPLINE SPECIFIC CORE COURSE – 16 (DSC-16): OPERATIONS RESEARCH

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical		
Operations Research (DSC 16)	4	3	0	1	Class 12	None

Learning Objectives

The course intends to develop an understanding of:

- (i) linear programming problems and their methods of solution
- (ii) transportation and assignment problems, theory for solution and software methods
- (iii) network analysis, Markov chains and applications
- (iii) a decision making environment and theory of games

Learning outcomes

By studying this course, the students will be able to:

- Identify and develop operational research models from the verbal description of the real system.
- Understand the mathematical tools that are needed to solve optimization problems.
- Use mathematical software to solve the proposed models
- Develop critical thinking and use PERT and CPM techniques to improve decision making.

SYLLABUS OF DSC-16

UNIT-I: Introduction - Operations Research, Linear Programming, Integer Programming (15 hours)

- (i) Introduction to Operations Research, characteristics, Phases, Methodology, Applications and scope
- (ii) Formulation of Linear Programming problems, Graphical Solutions (Special cases: Multiple optimal solution, infeasibility, unbounded solution); Simplex Method, Special cases, Big-M method and Two-phase method; Duality (emphasis on formulation & economic interpretation); Sensitivity Analysis. (Excel Solver application)
- (iii) Integer programming problem: Formulation, Solution through Gomory's Cut Method, managerial applications.

Unit 2: Transportation and Assignment Problem

(9 hours)

- (i) Transportation Problem: Formulation, Solution by N.W. Corner Rule, Least Cost method, Vogel's Approximation Method (VAM), Modified Distribution Method; Special cases: Multiple Solutions, Maximization case, unbalanced case, prohibited routes. (Excel Solver application)
- (ii) Assignment Problem: Hungarian Method, Special cases: Multiple Solutions, Maximization case, Unbalanced case, Restrictions on assignment. (Excel solver application)

Unit 3: Network and Markov Analysis

(12 hours)

- (i) Network Analysis: Basic Concept, Construction of the Network diagram, Critical Path Analysis, float and slack analysis (Total float, free float, independent float), probability consideration in PERT (Interface with Project Management open-source software)
- (ii) Markov Analysis: Assumptions of Markov analysis, construction of matrix of transition probabilities, brand switching analysis, vector of state probabilities, prediction of future market share, equilibrium conditions.

Unit 4: Decision Theory:

(9 hours)

- (i) Decision making environment, Construction of Pay off Table, Opportunity Loss Table, Decision under uncertainty, Decision under Risk: EMV, EOL, EVPI.
- (ii) Decision under Conflict: Game Theory, Two-person Zero-Sum games, Maximin Minimax Principle, Games without Saddle point- Mixed strategy, Dominance Rule; Reduction of $m \times n$ game. (Application of Excel Solver)

Practical Component (30 Hours) : Practicals based on spreadsheet package (Microsoft Excel or equivalent) to enable students to apply all the concepts taken up in the theory classes in the course.

Essential/recommended readings

1. Vohra, N.D, Quantitative Techniques in Management, 5th ed., Tata McGraw Hill.
2. Gupta ManMohan, SwarupKanti, Introduction to Management Science Operations Research, 19th ed. Sultan Chand & Sons.
3. Sharma J.K., Operations Research: Theory and Applications, 6th ed. Trinity.
4. TahahamdyA., Operations Research: An Introduction, 9th ed., Pearson.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE – 17 (DSC-17): Business Legislation in India

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite for the course
		Lecture	Tutorial	Practical		
Business Legislation in India (DSC 17)	4	3	1	0	Class 12	None

Learning Objectives

The course intends to inform and develop an understanding of:

1. The Indian Contract Act, 1872
2. The Sale of Goods Act, 1930
3. The Companies Act, 2013
4. The Intellectual Property Act, Competition Act and Consumer Protection Act

Learning outcomes

By studying this course, the students will able to:

- Understand the fundamentals of the various legislations for conducting business.
- Able to understand and appreciate the need for different legislations and the amendments thereof.
- Enable the student to initiate their own ventures in the form of entrepreneurs, and Company.
- Relate the legal framework with recent cases in the business world so as to have better understanding of their interpretations.

SYLLABUS OF DSC-17

UNIT - I: Indian Contract Act 1872

(15 hours)

Definition: Essential elements and Kinds of Contracts. Offer and Acceptance: legal rules, lapse and revocation. Consideration: Definition, Essentials and Exceptions. Capacity of Parties: Minor's agreements, Persons of unsound mind and Disqualified persons. Free Consent: Coercion, Undue Influence, Misrepresentation, fraud and Mistake. Discharge of a Contract and its various ways. Kinds of Remedies for Breach of a Contract.

Unit 2: The Sale of Goods Act 1930

(8 hours)

Contract of Sale of Good: Definition and Essentials: Sale and agreement to sell distinguished: Kinds of Goods and concept of price. Conditions and Warranties. Doctrine of caveat emptor and exceptions. Transfer of Property: Concept and Rules. Rights of Unpaid Seller against the goods and buyer.

Unit 3: The Companies Act 2013

(15 hours)

The Company: Definition and Characteristics. Kinds of Companies: On the basis of incorporation and liability of Members. Concept of One Person Company. Difference between Public and Private Company. Formation of a company—promotion, incorporation, on-line registration, commencement of business. Memorandum of Association. Articles of Association. Prospectus: Definition, Issue and Contents. Misleading prospectus and its consequences including remedies. Company Management: Definition of Directors, Legal Position of Directors, Number of Directors and Directorship, Qualification and Disqualification, Appointment and Removal, Powers and Duties of Directors.

Meetings and Resolutions: Types: AGM and EGM, Legal provisions, Requisites of a valid meeting, Voting, Proxy, Resolutions and its types, Minutes. Winding up of a Company – Meaning, Winding up and Dissolution distinguished, Modes and Consequences of Winding Up.

Unit 4: Laws of Intellectual Property, Competition and Consumer Protection (7 hours)

Intellectual Property Act: Patent Act, 1970: Meaning and Types. Patentable and Non- Patentable Inventions. Procedure for obtaining a patent. Trade Marks Act, 1999: Essentials and Definition. Conditions for Registration of Trade Marks. Design Act, 2000: Concept and Registration of Designs. Copyright in Registered Designs. General Provisions relating to design under the Act. Competition Act 2002: Scope and applicability of the Act. Prohibition of Anti- Competitive agreement and abuse of dominant position. Regulation of Combinations. Duties, Powers and Functions of Competition Commission of India
Consumer Protection Act 2009: Scope and Applicability of the Act. Rights of consumer. Procedure for complaints. Duties and power of Central Consumer Protection Authority.

Essential/recommended readings

1. Bansal V and Arora, A. Corporate Laws. Vikas Publishing, House (P) Ltd. New Delhi.

2. Chadha, R. Chadha, S. Corporate Laws. Mayur Paperbacks. New Delhi.
3. Kuchhal M.C & Vivek K. Business Legislation for Management. VIKAS Publishing House (P) Ltd.
4. Kumar, A. Corporate Laws. International Book House (P) Ltd.
5. Bare Acts relating to the laws.

Suggestive readings

1. Arora, S. Business Laws. New Delhi. Vikas Publishing House.
2. Gulsan, S.S. Business Laws. Excel Books.
3. Singh, Avtar. The Principles of Mercantile Law. Eastern Book Company. Lucknow.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE – (DSC-18): ENVIRONMENTAL ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Environmental Economics (DSC 18)	4	3	1	0	Class 12	None

Learning Objectives

The course intends to develop an understanding of:

- (i) the concept of sustainability and economy-environment interaction
- (ii) public policies to control environmental damage and pollution
- (iii) the use of risk and cost-benefit analysis for environmental conservation
- (iv) global environmental concerns and their protocols

Learning outcomes

By studying this course, students will be able to:

- Provide the basic understanding interaction between environment and economic activities
- Understand sustainability
- Analyse different tools of environmental policies
- Understand global policies for environment

SYLLABUS OF DSC-18

UNIT - I: Environment and Sustainability

(9 hours)

An Introduction to Environmental Economics; Economy-Environment interdependence, materials balance model of economy-environment interactions, the drivers of environmental Impact, Environmental Kuznets Curve Hypothesis. Concepts of sustainability: The Hartwick rule, Weak and strong sustainability, Resilience.

Unit 2: Environmental Policies

(12 hours)

Conventional Policy: Environmental Standards, Efficiency of Environmental Standards, Command and Control Approach. Market Based Policy - Pollution Charges and Environmental Subsidies. Deposit Refund System. Pollution Permit Trading Systems.

Unit 3: Environmental Planning & Analytical Tools

(12 hours)

Environmental Risk Analysis - Concept of Risk. Risk Assessment and Risk Management
Assessing Benefits for Environmental Decision Making - Environmental Benefits - Conceptual Issues.
Approaches to Measuring Environmental Benefits - Physical Linkage Approach, Behavioral Linkage Approach -Direct and Indirect Estimation Methods, Benefit -Cost Analysis

Unit 4: Global Environmental Management and Regulations

(12hours)

Ozone depletion, Climate change, International collaborations for environment, Montreal and Kyoto protocol, Paris agreement

Essential/recommended readings

1. Perman Roger, MaYue, McGilvray James and Common Michael. (2003) Natural Resource and Environmental Economics. Financial Times/ Prentice Hall.
2. Thomas Janet M., Callan Scott J.. (2012) Environmental Economics and Management: Theory, Policy, and Applications. South-Western College Publishing.
3. Kolstad Charles. (2012). Intermediate Environmental Economics. Oxford University Press
4. Hanley Nick, Shogren Jason F. and White Ben. (2006). Environmental Economics in Theory and Practice. Palgrave Macmillan

Suggestive readings

1. Henley, Nick and Roberts, Colin Ed. (2002). Issues in Environmental Economics. Wiley-Blackwell
2. Lenschow, Andrea and Lenschow Ed. (2001). Environmental Policy Integration. Routledge.

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