

UNIVERSITY OF MUMBAI

No. UG/18 of 2014

CIRCULAR:-

The Principals of the affiliated Colleges in Commerce and the Heads of recognized Institutions concerned are hereby informed that the recommendation made by the Faculty of Commerce at its meeting held on 28th February, 2014 has been accepted by the Academic Council at its meeting held 4th March, 2014 **vide** item No. 4.45 and subsequently approved by the Management Council at its meeting held on 4th April, 2014 **vide** item No.8 and that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 54 (1) of the Maharashtra Universities Act, 1994 and the Ordinances 6120 and 6121 and the syllabus as per the Credit Based Semester and Grading System for the Three Years Integrated B.Com (Environmental Management & Economics) /B.M.S. (Environmental Management & Economics) degree programmes are introduced, which are available on the University's web site (www.mu.ac.in) and that the same has been brought into force with effect from the academic year 2014-15.

MUMBAI – 400 032
1st July, 2014

Sd/-
Director, B.C.U.D.

To,

The Principals of the affiliated Colleges Commerce and the Heads of Recognized Institutions concerned.

A.C/4.45/04.03.2014
M.C/8/04.04.2014

No. UG/18-A of 2014

MUMBAI-400 032

1st July, 2014

Copy forwarded with Compliments for information to:-

- 1) The Dean, faculty of Commerce,
- 2) The Professor-cum-Director, Institute of Distance & Open Learning (IDOL)
- 3) The Director, Board of College and University Development,
- 4) The Co-Ordinator, University Computerization Centre,
- 5) The Controller of Examinations.

Sd/-
Director, B.C.U.D.

AC 4-3-2014
Item No. – 4.45

UNIVERSITY OF MUMBAI



Syllabus

Program: B.COM/B.M.S

Course: Environmental Management & Economics

(As per Credit Based Semester and Grading System with
effect from the academic year 2014–2015)

Semester I – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern				
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Continuous Assessment	Semester End Examination	Total Marks	Duration of Theory Paper	No of Credits
1	Introduction to Environment Management	30	2	40 IA	60 IA	100	3	2
2	Principles of Management	30	2	40 IA	60 IA	100	3	2
3	Organisational Behaviour	30	2	40 IA	60 IA	100	3	2
4	Managerial Economics	30	2	40 IA	60 IA	100	3	2
5	Financial Accounting	30	2	40 IA	60 IA	100	3	2
6	Business Communication	30	2	40 IA	60 IA	100	3	2
			Total No of Credits					12

Semester II – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern					
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Continuous Assessment	Semester End Examination	Total Marks	Duration of Theory Paper	No of Credits	
1	Ecology & Environment	30	2	40 IA	60 IA	100	3	2	
2	Human Resource Management	30	2	40 IA	60 IA	100	3	2	
3	Introduction to Cost Accounting	30	2	40 IA	60 IA	100	3	2	
4	Economic Environment of Business	30	2	40 IA	60 IA	100	3	2	
5	Production Management & Materials Management	30	2	40 IA	60 IA	100	3	2	
6	Business Statistics	30	2	40 IA	60 IA	100	3	2	
				Total No of Credits					12

Semester III – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern					
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Continuous Assessment	Semester End Examination	Total Marks	Duration of Theory Paper	No of Credits	
1	Environmental Economics – I	30	2	40 IA	60 IA	100	3	2	
2	Marketing Management	30	2	40 IA	60 IA	100	3	2	
3	Research Methods in Business	30	2	40 IA	60 IA	100	3	2	
4	Global Warming & Climate Change	30	2	40 IA	60 IA	100	3	2	
5	Natural Resources & Management	30	2	40 IA	60 IA	100	3	2	
6	Financial Management	30	2	40 IA	60 IA	100	3	2	
				Total No of Credits					12

Semester IV – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern				
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Contin uous Assessment	Semeste r End Examina tion	Total Marks	Duration of Theory Paper	No of Credits
1	Environmental Safety, Health & Management	30	2	40 IA	60 IA	100	3	2
2	Environmental Pollution & Management	30	2	40 IA	60 IA	100	3	2
3	Environmental Economics – II	30	2	40 IA	60 IA	100	3	2
4	Customer Relationship Management	30	2	40 IA	60 IA	100	3	2
5	Occupational Health & Safety	30	2	40 IA	60 IA	100	3	2
6	Management Information Systems	30	2	40 IA	60 IA	100	3	2
7	Project Submission – I	100 Marks						4
			Total No of Credits					16

Semester V – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern				
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Continuous Assessment	Semester End Examination	Total Marks	Duration of Theory Paper	No of Credits
1	Environmental Impact Assessment	30	2	40 IA	60 IA	100	3	2
2	Strategic Management	30	2	40 IA	60 IA	100	3	2
3	Entrepreneurship Management	30	2	40 IA	60 IA	100	3	2
4	Environmental Legislation	30	2	40 IA	60 IA	100	3	2
5	Project Management	30	2	40 IA	60 IA	100	3	2
6	Business Ethics	30	2	40 IA	60 IA	100	3	2
			Total No of Credits					12

Semester VI – B.Com/B.M.S Environmental Management & Economics

Sr. No.	Subject	Teaching Hours		Assessment Pattern				
		No. of Sessions of 90 minutes	No. of Sessions of 90 minutes per week	Continuous Assessment	Semester End Examination	Total Marks	Duration of Theory Paper	No of Credits
1	Corporate Social Responsibility	30	2	40 IA	60 IA	100	3	2
2	Solid & Hazardous Waste Management	30	2	40 IA	60 IA	100	3	2
3	Environment & Eco – Tourism	30	2	40 IA	60 IA	100	3	2
4	Corporate Governance	30	2	40 IA	60 IA	100	3	2
5	Environmental Problems, Hazards & Mitigation	30	2	40 IA	60 IA	100	3	2
6	Corporate Governance	30	2	40 IA	60 IA	100	3	2
7	Project Submission – II	100 Marks						4
			Total No of Credits					16

Semester	Total No of Credits
Semester I	12
Semester II	12
Semester III	12
Semester IV	16
Semester V	12
Semester VI	16
Total	80

SEMESTER I

Introduction to Environmental Management Sem I

Unit No. I

Resources and Wealth :

Meaning, Types of Resources, Exploitation of Resources. Use of Technology and its impact on Natural Environment : Wealth meaning, Distinction between wealth and resources. Optimum Conversion of Resources into wealth : Anthropogenic Waste its effects, Man made industrial waste.

Unit No. II

Environmental Degradation :

Meaning, causes : Degradation of urban land, Forest and Agricultural land due to natural causes and human interference : Global Warming : Problems of non-degradable Waste.

Electronic Devices, Plastic and Man-made fibres: Environmental Assessment

Environmental Impact Assessment (EIA). Environmental Auditing, Environmental Legislation in India, Carbon Bank.

Unit No. III

Environmental Management

Meaning, development and environmental linkages. Environmental concerns in India. The need for sustainable development. Actions for environmental protection : National and international initiatives, emerging environment management strategies, Indian initiatives Environmental Protection Movements and NGOs in India.

Disaster Management meaning need and planning with reference to Flood, Storms, Tsunami, Cyclones and Earthquakes in India.

Reference Books :

No.	Title	Author	Publisher
1.	Centre for Science and Environment. The State of India's Environment Society 1984-85 Reprint	---	C.S.E., New Delhi
2.	Environmental Priorities in India	Khoshoo	Environmental Society, New Delhi
3.	Environment Management	N.K. Uberoi	Excel Books, Delhi
4.	Environmental Management	H.V. Jadhav	Vipul Prakashan, Mumbai
5.	The Hindu Survey of Environment	The Hindu	Chennai
6.	Environmental Economics	Karpagam M	Sterling, New Delhi

Principles of Management Sem I

Unit No. I

Management

Concept, nature, process and Significance. An overview of functional areas of management, managerial roles (Mintzberg)

Evolution of Management Theory Work of Fredrik, W. Taylor, Fayol's contribution
Behavioural Science approach, Contingency approach.

Unit No. II

Management Functions Planning, Organising, Staffing, Directing and controlling.

Planning : meaningimportanceelementsprocesses limitations

Decision Making concept, importance and steps in decision making Preparation of
Business Plan

Unit No. III

Organising Concept, nature and significance; Authority and responsibility relationships,
centralization and decentralization, departementation, organization structure forms.

Staffing importance, sources of recruitment, selection process.

Unit No. IV

Directing meaning and steps I direction : motivation concept ; theories Maslow,
Herzberg, McGregor.

Leadership concept, styles and traits

Control : concept, process: Effective control system; control techniques.

Coordination concept, Definition and importance.

Reference Books

No.	Title	Author	Publisher
1	Essentials of Management	Koontz H & W	McGraw Hill, New York
2	Principles of Management	Ramaswamy	Himayala, Mubai
3	Management Concept and Practice	Hannagain T.	McMillan, Delhi
4	Basic Managerial Skills for All	McGrath, E.H.	Prentice Hall of India
5	Management – Text & Cases	VSP Rao	Excel Books, Delhi
6	Essentials of Management	Massie Joseph	Prentice Hall of India
7	Management : Principles & Guidelines	Thomas N. Duening & John Ivancevich	Biztantra
8	Management Concepts and OB	P.S. Rao & N.V. Shah	Ajab Pustakalaya
9	Management Concepts and Strategies	J S Chandran	Vikas Publishing House
10	Principles of Management	Tripathi P.C.	Tata McGraw Hill
11	Principles of Management : Theory and Practice	Sarangi S K	V M P Publishers & Distributors
12	Principles of Management	Terry G R	AITBS

Organisational Behaviour Sem I

Chapter – 1

- Fundamentals of Organizational Behavior
- Individual differences in people
- Role of Hereditary in Environment
- Pre-natal & Post-natal Environment

Chapter – 2

- Learning – Theories & Mechanism
- Intelligence
 - Types
 - Individual verses Group Test of Intelligence, Sixth thinking hats
 - Normal distribution curve of Intelligence
 - Theories & models of Motivation
 - Motivation Cycles
 - Leadership Styles
 - Theories of Leadership
- Performance Appraisal
- Empowerment

Chapter – 3

- Dimensions & Interaction in Society
- Different types of Groups
- Team Building
- Conflict resolution strategies
- Group decision making verses Individual decision making

Chapter – 4

- Organizational Culture
- Characteristics & Techniques of Organizational Development
 - Resistance to Change
 - Overcoming resistance
 - Stress & Counseling
 - Time Management

Managerial Economics Sem I

Unit No. I

Introduction

Meaning and Scope of managerial economics relationship to economic theory
relationship with decision theory role of managerial economics objectives and constraints
of the firm introduction to risk, asymmetric information and game theory.

Unit No. II

Demand Analysis

Meaning of demand Market demand function Demand curve, factors affecting demand
Variation and increase/decrease in demand Elasticity of demand Graphical representation
of price elasticity of demand Price income and cross elasticity of demand.
Estimation of demand Numerical problems for measurement of elasticity.

Unit No. III

Production and Costs

Meaning of production Types of production function Importance of production function in
managerial decisionmaking Application of production function in productive sectors
(service and manufacturing) Economics of scale and scope.
Importance of cost in managerial decisionmaking Economic concepts of cost Functional
form of short run and long run cost Estimation and alternative methods of estimation of cost
LAC as a decision making tool Impact of learning curve.

Unit No. IV

Market Structures

Meaning of market structure, need for analyzing market structure, types of market

A. Perfect competition and Monopoly

Features Representative firm, and industry Equilibrium in short and long run Price and output determination using diagrams Normal profits, losses and supernormal profits in short run Long run and normal profit Merits and limitations of perfect markets.

B. Oligopoly and Monopolistic Competition

Oligopoly definition and characteristics Collusion and cartel Nonprice competition Price stickiness and kinked demand

Monopolistic competition definition and characteristics Equilibrium Price & determination.

Reference Books

No.	Title	Author	Publisher
1.	Managerial Economics	Dean Joel	Eastern Edition
2.	Managerial Economics	Almanand	Excel Books, New Delhi
3.	Managerial Economics	Hague, D.	Longman, London
4.	A study of Managerial Economics	Gopalakrishna	Himalaya Mumbai
5.	Managerial Economics	Cauvery, R. et al;	S.Chand, New Delhi
6.	Managerial Economics	Paul G Keat, K.Y. Young	Prentice Hall Publications
7.	Managerial Economics: Analysis, Problems Cases	Lila J. Truett and Dale B Truett	John Wiley and Sons
8.	The Economy Today	Bradley R Schiller	McGraw-Hill
9.	Principles of Economics	Robert H Frank and Ben Bernanke (2007)	Tata McGraw-Hill, New Delhi
10.	Managerial Economics	Ahuja HL (2007)	S.Chand & Co.Delhi
11.	The New Managerial Economics	William Boyce	Biztantra

Financial Accounting Sem I

Unit No. I

A. Meaning and Scope of Accounting : Need, development and definition; Book keeping and accounting; Persons interested in accounting; Disclosures; Branches of accounting; Objectives of accounting.

B. Accounting Transactions : Accounting cycle, journal, journal proper, Opening and closing entries, Relationship between journal & ledger; Rules regarding posting; Trial balance; Subsidiary books; Bank reconciliation statement.

C. Accounting Standards

AS 1 : Disclosures of accounting policies : Meaning of accounting policies ▪ Purpose ▪ Different policies ▪ Areas of policies ▪ Disclosure of policies ▪ Disclosure of change in policies ▪ Simple illustrations.

AS 6 : Depreciation accounting : Meaning ▪ Definitions ▪ Importance ▪ Factors ▪ Useful life of a depreciable asset ▪ Estimating useful life ▪ Additions ▪ Residual value ▪ Methods ▪ Disclosure of surplus ▪ change in method ▪ Simple illustrations.

AS 9 : Revenue recognition : Meaning and scope ▪ Transactions excluded ▪ Sale of goods ▪ Rendering of services ▪ Effect of uncertainties ▪ Disclosure ▪ Simple illustrations.

AS10: Accounting for fixed assets : Meaning ▪ Definitions ▪ Importance ▪ Cost of fixed assets ▪ Self constructed fixed assets ▪ Non-monetary consideration ▪ Improvements, repairs, additions and extensions ▪ Revaluation ▪ Sale or retirement ▪ Valuation of fixed assets in special cases ▪ Special types of fixed assets ▪ Disclosure.

Unit No. II

A.

- 1) Expenditure : Classification of Expenditure Capital, Revenue and Deferred Revenue
Expenditure : Distinction between capital expenditure and revenue expenses : Unusual expenses : Effect of error; Critical tests
- 2) Receipts : Capital receipt, Revenue receipt, Distinction between capital receipts and revenue receipts.
- 3) Profit or Loss : Revenue profit or loss, Capital profit or loss

B. Depreciation Accounting :

Practical problem based on accounting treatment by provision for depreciation using SLM and RBM methods.

Unit No. III

Trial Balance and Final Accounts of a Sole Proprietor

Introduction to trial balance and final accounts of a sole proprietor.
Rectification of errors.
Preparation and Presentation of Final Accounts in Horizontal Form :
Manufacturing Account : Trading Account : Profit and Loss Account :
Balance Sheet

Unit No. IV

Accounting in Computerised Environment

An overview of computerised environment.
Features of computerised accounting system.
Concept of grouping of accounts
Codification of accounts.
Maintaining the hierarchy and ledgers.
Accounting packages and consideration of them in selection

Reference Books

No.	Title	Author	Publisher
1	An Introduction to financial Accounting	Andrew Thomas	McGraw Hill
2	Financial Accounting – A Managerial emphasis	Ashok Banerjee	Excel Books
3	Financial Accounting	Weugamt.	Keiso, Kimmel
4	Accounting Theory – an Introduction	L.S.S. Porwal	Tata McGraw Hill
5	Elements of Accounts	T.S. Grewal	S.Chand & Co.
6	Business Accounting	Frank Woods	Pitman Publication
7	Advanced Accountancy	R.L. Gupta & M. Radhaswamy	S. Chand & Co. (P) Ltd., New Delhi
8	Accounting Standards	---	Institute of Chartered Accountants of India, New Delhi
9	Financial Accounting for Managerial Texts & Cases	Dr. Dinesh D. Harsolikar	Multi-Tech. Publishing Co. Ltd., New Delhi
10	Indian Accounting Standards and US Gaap	Ashish Bhattacharya	Tata McGraw Hill & Co. Ltd., New Delhi
11	Financial Accounting	Warren	Thomson Learning
12	Company Accounting Standards	Shrinivasan Anand	Taxman
13	Financial Accounting	J. R. Monga, Girish Ahuja	Mayur Paper Back

Business Communication Sem I

Unit No. I

Fundamentals of Communication

Definition, Meaning Types, process and importance

Unit No. II

Effective Communication

Concept and Practice of Effective Communication

Barriers to Effective Communication

Methods to Improve Communication Skills

Unit No. III

Written Communication Skills

Report Writing

Letter Writing

Preparation of Promotional Material

with special reference to banks, Insurance companies and Joint stock companies

Unit No. IV (No. of Lectures 15)

Oral Communication Skills

Understanding Audience

Use of Language

Use of Tone

Understanding Body Language

Reference Books

No.	Title	Author	Publisher
1	Effective Communication	Rai Urmila	Himalaya, Mumbai
2	Business Communication	Kaul	Prentice Hall India
3	Basic Business Communication	Lesikar	TMH
4	Business Communication & Personality Development	Das	Excel Books, Delhi
5	How to Listen Better?	Pramila Ahuja & G Ahuja	Sterling Publication
6	Contemporary Business Communication	Scot	Biztantra
7	Business Communication for Managers : An Advanced Approach	Penrose	Thomson learning
8	Business Correspondence	Whitehead G & H	A.H. Wheeler, Allahabad

SEMESTER II

Ecology and Environment Sem – II

MODULE – I

Ecology – Meaning - Environmental Science – History of Ecology – Ecology Today – Scope of Ecology – The Subdivisions of Ecology – Models in Ecology – Fundamental Concepts – Environmentalism – Conservation Ethics – Air pollution- Water pollution -Noise pollution , Radioactive pollution - Solid waste pollution - Land pollution

MODULE – II

Origin of Atmosphere – Vertical Structure of the Atmosphere – Ecological Significance of Air – Horizontal Motion of Atmosphere – vertical Movements – Upper Air Circulation (Jet Streams) – Air Masses – Important Properties of the Atmosphere – Acid Rain

MODULE – III

Zonal Structure of the Earth – The Geologic Cycle – Minerals and Rocks – Soil – Pedogenesis – Soil Types – Soil Classification – Types of Rocks and Minerals – Soil profile – Soil Erosion in India – Soil Conservation – Biota of the Soil – Soil Adaptations in Animals

MODULE – IV

Hydrologic – Water Budget – Fresh Water Environment – Lakes – Eutrophication of Lakes – Reservoirs – Running Water – The Open Ocean – Physico-chemical Aspects of Marine Environment – Wetlands and Coastal Environment – Antarctic Research Programme – Coral Reef – Exclusive Economic Zone (EEZ) – Estuaries – Biosphere -Introduction – concept of Biome – Evolution and Diversity in Biomes – Major Biomes of Earth – Landforms

MODULE – V

Ecosystem Biodiversity – Species Diversity – Genetic Diversity – Global Diversity – The Value of Biodiversity – Biodiversity and Ecosystem function – Biodiversity – Hot Spots – Bio-wealth – Biotic Impoverishment – Biodiversity conservation – Biotechnology and Biodiversity – Milestones of Convention of Biodiversity (CBD) – Main Players in CBD.

MODULE – VI

Resource Cycle – Mineral Resources – Marine Resources – Mineral Resources of Antarctica – Energy Resources – Renewable Sources of Energy – Energy from Biomass – Nonrenewable Sources of Energy – Nuclear Energy – Geothermal Energy – Ocean Thermal Energy – Energy for the Future – Forest Resources – Deforestation – Water A Vital Resources – India's Water Budget

TEXT BOOK: S.V.S.Rana – Essentials of Ecology and Environmental Science – Prentice – Hall of India – Third Edition – 2007.

Human Resource Management Sem II

Introduction to HRM

Definition, Features, Scope/Functions of HRM, Definition of Personnel Management.

Evolution of HRM/ Trends in HRM,

Difference between HRM and PM ,

Challenges before the HR manager,

Role of HR Manager,

Traits/Characteristics of the workforce,

Personnel Philosophy,

Personnel Manual.

Human Resource Planning

Definition of HRP

Process of HRP along with brief coverage of personnel demand and supply forecasting techniques

Factors affecting HRP

Human Resource Information System (HRIS),

VRS, Outsourcing, Pink slip/ termination/ retrenchment/ downsizing/ separation

Contracting and Sub- contracting

Promotions and Transfers

Job Analysis, Job Design and Job Evaluation

Job Analysis – Definition, methods of collecting job data, merits and demerits/limitations

Job Design – Definition, Factors affecting Job Design, Approaches to Job Design

Job Evaluation – Definition, methods of job evaluation, process of Job Evaluation.

Recruitment, Selection and Induction

Recruitment – Definition, sources of recruitment , merits and demerits

Selection – Definition, process of selection, types of selection tests, types of interviews

Induction/Orientation – definition, methods, process

Placement

Training and Development

Definition of Training and Development,
Methods of training managers,
Process/ procedure of conducting training programme,
How to evaluate effectiveness of training programmes,
Advantages of T&D

Performance Appraisal

Definition of Performance Appraisal,
Methods of Appraisal for managers – traditional and modern
Process / procedure of conducting performance appraisal
Advantages of performance appraisal
Limitations of Appraisal

Compensation Management

Definition of compensation,
Components of Salary / Salary slip,
Fringe Benefits – definition and types,
Performance linked incentives/ incentives- definition, advantages and disadvantages.

Career Planning And Development

Definition of Career Planning and Career Development,
Process/ Procedure of Career Planning,
Career Stages/ Career Life Cycle and how to handle personnel at each stage,
Essentials to make career planning successful,
Career Counselling,
Employee Retention techniques,
Succession planning

Participative Management

Definition of Participative Management,

Levels of participation

Trends in Participative Management

Factors essential for successful participative management

Forms of participation

Participation through Quality Circles

Empowered Teams

Industrial Relations

Definition of Industrial Relations,

Features of Industrial Relations,

Importance of Industrial Relations,

Approaches to Industrial Relations,

Parties to Industrial Relations

Trade Unions

Definition of Trade Union,

Features of Trade unions,

Trade union movement in India/ Trends in the Trade Union

Recommended Books:

- 1) **K. Aswathappa**, "Human Resources & Personnel Management- Text And Cases – Fourth Edition", Tata Mc Graw Hill
- 2) **Jayashree Sadri, Sorabh Sadri** "A Strategic Approach to Human Resources Management". Jaico Publishing House, Mumbai
- 3) **Mamoria**, "Personnel Management", Himalaya Publication
- 4) **Edwin B Flippo**, "Principles of Personnel Management", Mc Graw – hill International
- 5) **M. Nair And T.V. Rao**, "Excellence Through HRD", Tata McGraw Hill publications
- 6) **Micheal Armstrong**, "Handbook Of Human Resource Management Practice", Kogan Page
- 7) **Gary Dessler**, "Human Resource Management", Pearson Education.
- 8) **Saiyadain**, "Human Resource Management", Fourth Edition, Tata McGraw Hill publications
- 9) **William J Rothwell and H.C. Kazanas** – Planning & Managing Human Resources – Jaico Publishing House, Mumabai, 2nd Edition, 2008.

Introduction to Cost Accounting Sem II

Unit No. I

Introduction & Importance of Cost Accounting :

Cost, costing, cost accounting; Cost ascertainment : Cost control; Cost classification; Reporting : Distinction between cost and financial accountancy; Advantages of cost accounting; Objectives of cost accounting.

Unit No. II

A. Elements of cost :

Material-labour; overheads.

B. Bases of cost classification :

On the basis of :

Behavior / Variability

Element of cost including direct and indirect concept.

Functions.

C. Determination of Total cost :

Cost structure

Cost sheets

Composition of selling price

Unit No. III

Reconciliation between cost and financial records :

Meaning and definition Need for reconciliation Causes of disagreement Procedure and preparation of statement of reconciliation.

Unit No. IV

Elementary Principles and Techniques of Marginal costing (Excluding Problems on Managerial Decisions)

A. Elementary principles of marginal costing :

Meaning features of marginal costing Advantages of marginal costing

Limitations of marginal costing concept of profit.

B. Techniques of Marginal Costing :

Contribution Profit / volume ratio Break even point Margin of safety Cost volume profit analysis.

Reference Books :

No.	Title	Author	Publisher
1.	Management Accounting	I.M. Pandey	Vikas Publishing
2.	Cost Accounting	C.S. Rayudu	Tata McGraw Hill and Co. Ltd, Mumbai
3.	Cost Accounting Theory and Practice	M.N. Aurora	S. Chand & Co. (P) Ltd., New Delhi
4.	Cost Accounting – A Managerial Emphasis	Horngren, Charles, Foster and Datar	Prentice Hall of India
5.	Advanced Problems and Solutions in Cost Accounting	Moheshwari S.N.	S. Chand and Co. (P) Ltd. New Delhi
6.	Cost Accounting	Jain S.P., Narange K.L.	Kalyani, New Delhi
7.	Cost Accounting and Financial Management	Ravi M. Kishore	Taxman's
8.	Principles of Cost Accounting	Vanderbeck	Thomson learning

Economic Environment of Business Sem II

Introduction to Macro Economics.

Macro economic aggregates and concepts

Circular flow of income.

National income and related concepts, calculation of National income, National income and social welfare, concept of Human Development Index. Supply of money, demand for money, price level. Inflation and Stagflation.

Determination of Income and Employment

Overview of classical and Keynesian analysis. Business cycles – features, causes and remedial Measures. Equilibrium in the Goods and Money markets (IS-LM)

Policy Environment

Role of state in different economic systems.

Theory of economic policy

Monetary policy – objectives and instruments.

Fiscal policy – objectives and instruments, , impact on business, concept of inclusive growth.

Economic stabilization – Fiscal v/s Monetary policy and Structural policy.

Trade policy – Protection v/s Free trade

International Trade

Overview of International trade.

Distinction between domestic and international trade.

Basis of trade – comparative cost difference, factor endowment and factor intensity.

Balance of payments – accounting structure, disequilibrium (types, causes and remedial measures), trends in India's Balance of payments.

Mechanism for international payments.

Flexible v/s Managed exchange rate systems.

Globalization

Globalization – meaning and effects (gains and problems), role of IMF and World Bank, concept of global recession with contagion effects.

World Trade Organization – agreement s and implications for India, contentious issues, disputes settlement mechanism.

Foreign Capital – need for foreign capital, role of MNCs,

FDI v/s Portfolio investment, causes of rising FDI in India.

Reference Books:

- 1) **Dornbusch R, Fischer and Startz** – “Macro Economics”, (Tata McGraw Hill).
- 2) **Richard T Froyen** – “Macro Economics”, (Pearson Education).
- 3) **Mankiw N G** – “Macro Economics”, (Worth Publishers).
- 4) **Prabhat Patnaik (ed)** – “Macro Economics”, (Oxford University Press).
- 5) **Andrew Abel and Ben Bernanke** – “Macroeconomics”, (Pearson Education)
- 6) **H L Ahuja** – “Macro Economics for Business and Management” (S Chand).
- 7) **A Nag** – “Macro Economics for Management Students”, (Macmillan)
- 8) **Shyamal Roy** – “Macro Economic Policy Environment – an analytical guide for managers”, (Tata McGraw Hill).
- 9) **Suraj B. Gupta** – “Monetary Economics: Institutions, Theory and Policy”, (S. Chand)
- 10) **Robert J Carbaugh** – “International Economics”, (Thomson Southwestern).
- 11) **Robert Dunn, Dana Stryck, James Ingram and Robert Dunn Jr.** – “International Economics Study Guide and Workbook”, (John Wiley and Sons)
- 12) **Dominick Salvatore** – “International Economics”, (John Wiley and sons).
- 13) **Paul Krugman and Maurice Obstfeld** (2005) – “International Economics: Theory and Policy”, (Addison Wesley)
- 14) **Bo Sodersten and Geoffrey Reed**, - “International Economics”, (Macmillan)
- 15) **J. Wild, K. Wild and J. Han** – “International Business”, (PHI)
- 16) **Ray S K** – “The Indian Economy”, (PHI).
- 17) **Vibha Mathur** - “Indian Economy and the WTO”, (New Century).
- 18) **Veena K Pailwar** – “Economic Environment of Business”, (PHI).
- 19) **Dutt and Sundaram** – “Indian Economy”, (S Chand)
- 20) **Jagdish Bhagwati** (2004) – “In Defense of Globalisation”, (Oxford University Press)
- 21) **Bradley Schiller**, “The Economy Today”, (McGraw-Hill)
- 22) **M. Adhikary** – “Economic Environment of Business”, (S. Chand)

Production Management & Materials Management Sem II

UNIT – I

- Introduction to the concept of operations and Operation Management
- Development of Production Function. Relation of Production with other Functions like design function, purchase function, plant layout, maintenance etc.
- Production classification, product selection (steps in identifying the product for manufacturing), Product development (market pull, technology push, inter functional approach).
- Brief description/importance of research development and design of a product

UNIT – II

- Facilities planning (how much to produce, level of automation, facilities required for manufacturing , where to produce, arranging required facilities, how to produce etc.) production systems
- Plant layout: difference between various types of layout (Product layout, process layout, Cellular layout, static layout etc)
- Various types of material Handling systems: their guidelines/principles, distinguishing features, uses
- Overview of various types of maintenance systems
- Meaning/functions/ nature of production, planning and control

UNIT – III

- Importance of materials management (corporate policy, organisation, research, planning, source selection)
- Value Analysis and Value Engineering
- Purchase Management, importance of purchasing, various R's of Purchasing, purchasing systems
- Need for forecasting price/policy on seasonal commodities and capital equipments. Simple problems on various types of forecasting including exponential smoothing
- Inventory management, its prime importance in our country today.
- Inventory control techniques- ABC, FSN, GOLF, VED, SOS, HML
- Make or Buy Decisions: Problems on inventory Management

UNIT – IV

- Warehousing and stored management- centralised and de-centralised stores. Brief introduction to various methods of stores accounting.
- Need for stock verification
- Management of scrap, waste, surplus, obsolete materials.
- JIT, KANBAN, KAIZEN, Push vs. Pull concept, MRP
- Explanation of EOQ – its advantages and disadvantages. Types of inventory systems (P-Systems and – Systems). Need for safety stock/reserve stock. Simple problems on these topics.
- SQC – techniques, Control Charts, X- Bar chart, R- chart, P- chart, C- chart. Graphical representation. Direct problems on these topics

Reference Books:

Sr. no.	Title	Author	Publisher
1.	Principles of Operation Management	Jay Heizer	Prentice Hall
2.	The Lean Manufacturing Pocket handbook	Kenneth W. Dailey	D W Publishing
3.	The Toyota Product Development System: Integrating people, process and technology	James M. Morgan and Jeffrey K. Liker	Productivity Press
4.	The Toyota Production System: Beyond large scale production	Taiiehi Ohno and Norman Bodek	Productivity Press
5.	Operations management: Processes and Value Chains	Lee J. Krajewski, Larry P. Ritzmann and Manoj K. Malhotra	Prentice Hall
6.	Productivity and Inventory Management	Donald Fogarty, John H Blackstone, Thomas R Hoffman	Douth – Western College
7.	Production and inventory Control : Principles and Techniques	George W Plossl	Prentice Hall
8.	Production Planning and Control	W Bolton	Addison Wesley Longman Limited
9.	Journal on Material and Supply chain, materials management Review (MMR), Indian Institute of Materials Management, Bangalore		
10.	Material Management: An Integrated approach	P Gopalakrishnan and M Sunderesan	Prentice Hall – international

Business Statistics Sem II

Unit No. I

Descriptive Statistics for Univariate Data :

Introduction to Statistics : Types of data. Data collection methods Census and Sample Survey :

Presentation of data : Tabular (Frequency distribution) and Graphical (Frequency Curve Ogives. Histogram).

Measures of Central Tendency : Arithmetic mean, median, mode, geometric mean – their properties and applications.

Measures of Dispersion : Absolute measures Range, Quartile deviation, Standard deviation, Variance and Relative measures coefficient of quartile range, coefficient of deviation, coefficient of variation.

Unit No. II

Forecasting Techniques

Correlation and Regression : Karl Pearson's coefficient of correlation (Properties and calculation); Spearman's Rank Correlation coefficient, Regression equation Statement and use.

Time Series : Components. Additive and multiplicative models, Estimation of linear trend by (i) least squares method (ii) moving average method Determination of seasonal trend using simple average method.

Index Numbers : Meaning and uses, Simple and composite index number.

Aggregative and average of price relatives simple and weighted index number.

Construction of index number fixed and chain base.

Laspayre's Paasche's Kelly's and Fisher's index numbers.

Construction of (i) consumer price index

(ii) Cost of living index numbers

Deflating, Splicing, Shifting of Base Year, Conversion from fixed base to chain base index numbers and vice-a-versa.

Unit No. III

Probability and Probability Distribution :

Probability : Sample space as a concept, different types of events.

Definition of probability.

Addition and Multiplication Laws of probability (Statements and use only) conditional probability, Bayes' Theorem (concept only).

Random Variable, Expectation and Variance. Probability distributions – Binomial and Normal.

Unit No. IV

Testing of Hypotheses

Sampling distribution : Sample mean and sample proportion.

Determination of sample size. Central Limit Theorem (Statement only).

Hypothesis : Simple and composite, null and alternative. Two types of errors, level of significance (concepts only) Large sample test. Tests based on Normal distribution (Tests for mean and difference in two means, proportion and difference in two proportions).

Internal estimation, t-test (concept only).

Reference Books :

No.	Title	Author	Publisher
1.	Statistics for Management	Richard Levin and David S. Rubin	Prentice Hall of India, New Delhi
2.	Statistics for Business & Economic	David R Anderson, Dennis J Sweney	Thompson Publication (Scuta Eastern)
3.	Fundamentals of Statistics	S.C. Gupta	Himalaya Publishing House
4.	Business Statistics	Bhardwaj	Excel Books, Delhi
5.	Introduction to Probability theory and its application	Feller W.	Wiley
6.	Data Analysis for Managers	Roberts H.	Scientific Press
7.	Statistics for Management	Sharma	Himalaya Publishing House
8.	Theory and Problems of Statistics	M.R. Spiegel	McGraw Hill Publishing Company
9.	Elementary Statistics	S.P. Gupta and Archana Gupta	Sultan Chand and Sons, New Delhi
10.	Business Statistics	J.S. Chandan	Vikas Publishing House
11.	Mathematics for Business and Social Sciences	Mizrahi and Sullivan	John Wiley and sons
12.	Mathematics for Business Studies	J.K. Thukral	Mayur Publications
13.	Business Mathematics	S.K. Singh & J.K. Singh	Brijwasi Book distributors and publishers
14.	Theory and problems of Business statistics	Schaum's Outline Series	McGraw Hill Book Company

SEMESTER III

Environmental Economics – I Sem III

- Introductory micro-economic theory such as: supply and demand; price formulation; political means of control; environmental economic theories;
- Valuation methods; political means of control (administrative and incentive based) and their applicability on environmental problems;
- Natural resource economics; renewable and non-renewable resources resource management regimes;
- Ecological economics; the ecological system; technological pessimism vs technological optimism;
- International trade and the environment; Economic growth and the environment; and
- Case Studies

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Marketing Management Sem III

Introduction to Marketing-

- (a) The 4 Ps and 3Cs of Marketing
- (b) Marketing as an activity, function, and philosophy
- (c) Needs, wants and demands; transactions, transfers & exchanges
- (d) Orientation of a firm: Production concept; product concept; selling concept; and marketing concept.

New Trends in Marketing: E-Marketing, Internet Marketing, and Marketing using social networks

Societal Marketing/Relationship Marketing

Marketing Research; MIS; & Consumer Behaviour

The micro environment of business (management structure; marketing channels: markets in which a firm operates; competitors and stakeholders.

Macro Environment: political factors; economic factors; socio-cultural factors; technological factors (pest analysis)

Marketing Research:

Importance of Marketing Research

Types of Marketing Research:

Product research; sales research; consumer/customer research; promotion research.

Consumer Behaviour:

Basic stimulus response model

Influence on consumers decision-making process

High involvement and low involvement products

Influences on buying behaviour: cultural factors, social factors, personal factors and psychological factors (Maslow's Hierarchy)

Methods of sales forecasting

Industrial Buying Behaviour; Product & Brand Management; STP

Industrial buying behaviour

Decision making process

DMUs and its composition Factors influencing purchasing: economic environment; organizational factors; inter-personal characteristics; and individual buyer characteristics

Key differences between Consumer and Organizational Buying

Product and Brand Management

(a) Products: core, tangible and augmented products

Product mixed decisions: product line decisions; strategic filling, line modernization decisions

New product development process: idea generation, screening, concept development and testing, marketing strategy, product development, market testing, test marketing, and commercialization.

product life cycle: Introduction growth, marketing decline,

(b) **Brand Management**

Brand equity; branding decisions; brand extensions; brand portfolios

Segmentation, Targeting and Positioning (STP):

Segmentation variables for consumer markets:

Geographic, demographic, psychographic, behavioural

Segmentation variable for industrial markets: customer location, type of industry, size of the firm, purchase criteria, etc.

Targeting: undifferentiated marketing; single segment and multi segment structures; guidelines for selecting target markets

Positioning:

Identifying frame of reference; points of parity and points of difference; choosing category membership; product and brand differentiation for identifying of position

Pricing Decisions, Channel Decisions; Promotion Mix; Strategies; Integrated Marketing; Communications; Marketing Services; & Ethics in Marketing

Pricing Decisions

Pricing objectives; factors influencing pricing decisions

Types of pricing: Mark up/cost plus pricing; perceived value pricing; value pricing; geographic pricing; etc.

Responding to competitors

Action through price and non price variables.

Impact of the products: stage in the PLC on pricing decisions.

Channel Decisions:

Types of channels: Intensity of distribution, channel conflict and channel management.

Retailing importance, and types of retail formats, Indian Retail Scenario

Promotion mix

Advertising: Importance and scope

Sales promotion: objectives; consumer promotions

PR and publicity

Personal Selling: recruitment, selection, training, motivation and evaluation of sales reps.

Integrated Marketing Communication:

Definition of target audience; determining communication objectives; designing communication and selection of channels

Marketing Services:

Characteristics of services; ways of improving services, delivery, managing service maturity.

Ethics in Marketing

Advertising Standards Council of India code of ethics in advertising; promotion to children; unfair practices in marketing

Reference Books

1. **Kotler, Keller, Koshy, and Jha**, “Marketing Management: A South Asian Perspective” 12e, Pearson/Prentice Hall
2. **Etzel, Stanton, Walker & Pandit**, “Marketing Concepts & Cases”, 13e, Tata McGraw Hill
3. **Russel S. Winer**, “Marketing Management”, 3e, Pearson Education
4. **Kurtz Boone**, “Principles of Marketing”, Thomson
5. **S H H Kazmi**, “Marketing management”, Excel
6. **Kerin Hartley**, “Marketing Management” ,Tata McGraw Hill
7. **Ramaswamy & Namakumari**, “Marketing Management”, Macmillan India
8. **Roger Kerin/Robert A**, “Peterson Strategic Marketing Problems”, Prentice Hall
9. **Roger A. Kerin, Steven W. Harley**, “Marketing” ,Tata McGraw Hill
10. “Marketing Planning and Strategy”, Thomson
11. “Kellogg on Integrated market”,Wiley India
12. **Philip Kotler**, “Marketing Management”,Pearson Education
13. **William Stanton**, “Fundamentals of Marketing”, Tata McGraw Hill
14. **Rustom Davar**, “Modern Marketing Management” ,Universal Books
15. **Kotler, Keller, Kozhy, Jha**, “Marketing Management- South Asian Perspective”, Pearson Education
16. **V.S. Ramaswami and S Namakumari**, “Marketing: Planning, Implementation and Control”,

Macmillan India

17. **Theodore Levitt** , “Marketing Management”

18. **Rajan Saxena**, “Marketing Management”, Tata McGraw Hill

Research Methods in Business Sem III

Fundamentals of Research: - Meaning, Objectives and Significance.

Types of Research: - Basic research, Applied, Descriptive, historical, Exploratory, Experimental, Ex-post-factor and Case study approach.

Approaches to Research: -

a. Quantitative approach: -

- i Inferential
- ii Experimental
- iii Simulation

b. Qualitative approach: -

- i Ethnographic
- ii Phenomenological
- iii Field Research

Importance of research in management decisions: -

Various areas of research in business:

- a) Marketing Research
- b) Government policies and economic systems
- c) Social relationship
- d) Planning and operational problems of research in business

2 Research process: -

Selecting the topic, defining the research problem, objectives of research, literature survey, sample design, data collection, execution of project, analysis of data and hypothesis testing, generalization and interpretation and preparation of research report.

Features of good research

Research design – Meaning, need, features of good research design, types of research design –

- a) For exploratory research
- b) For descriptive research
- b) For causal research studies

3 Hypothesis: -

Meaning, importance and types. Formulation of hypothesis and testing of hypothesis.

Chi-square test, Correlation Co-efficient, Regression analysis.

Sampling: -

Meaning, Sample and sampling, essentials of good sample. Sample size, methods of sampling: -

- a) Probability sampling – cluster sampling, stratified sampling, multi stage sampling.
- b) Non-probability sampling: - Purposive sampling, Quota sampling, Convenience sampling.

4 Sources and Methods of data collection: -

Primary and Secondary data.

a) Primary sources: -

- i. Observation
- ii. Interview
- iii. Questionnaire
- iv. Interview schedules

b) Secondary sources

Data processing – Tabulation - Data analysis and Interpretation

Report writing – layout of research report

Reference Books

1. **C.R.Kothari**, “Research Methodology - Methods & Techniques” , New Age International Publishers
2. **Krishnaswamy O R**, “Research Methodology, Himalaya Publishing House
3. **Donald R Cooper & Pamela S Schindler**, “Business Research Methods”
4. **Nandagopal /Rajan**, “Research methods in Business”, Excel
5. **Uma Sekaram**, “Research Method for Business- A skill building approach”
6. **Donald H McBurney**, “Research Methods”, CRC Press
7. **Levin & Reuben**, “Statistics for Management” , Prentice Hall
8. **Dr S Shajahan**, “Research methods for Management”, Jaico

Global warming and climate change Sem III

UNIT-I

Role of ozone in environment-ozone layer-ozone depleting gases-Green House Effect

UNIT-II

Temperature profile of the atmosphere- Laps rates-Temperature inversion- effects of inversion on pollution dispersion.

UNIT-III

Causes of Climate change : Change of Temperature in the environment-melting of ice Pole-sea level rise-role of fossil fuels

UNIT-IV

Mitigation Measures- Cleaner production-alternative fuel measures

UNIT – V

Kyoto Protocol-Intergovernmental Panel on Climate change (IPCC)-

REFERENCES

Annon 1996. Climate change 1995: Adaptation and mitigation of climate change-Scientific Technical Analysis. Cambridge University Press, Cambridge. Annon. 2001. Inter governmental Panel on Climate change (IPCC) Climate change 2001.

Third Assessment Report (Volume I). Cambridge University Press, Cambridge Annon.2005. World Health Organization. Climate and Health. Fact sheet. July. Gosain, A.K. and Rao,S. 2003.

Climate change and India: Vulnerability Assessment and Adaptation. Eds. Shukla,P.R. Universities Press Pvt. Ltd.Hyderabad. pp462

Houghton,J. 2005. Global warming: The Complete Briefing. Cambridge: Cambridge University Press.Cambridge.

Saha,T.K. 2008. Ecology and Environmental Biology. Books and Allied (P) Ltd. Kokata. Pp610.

Lakshmipathy,M., S.R.Ramanan, R.Sathyanathan and J.S.Sudarsahn. 2009. Proceedings of the National Conference on Effect of climate change and sustainable resource management .SRM University, Kattankallathur. pp316.

Rao,M.N, Datar,M.Y. and Reddy,S. 1997. Vermicomposting-A Technological option for solid waste management .Ujjain, India.

Natural Resources and Management Sem III

UNIT-I

Introduction to Natural Resources – Classification of natural resources – List of natural resources – Values of natural resources - Demands on Natural Resources - Population, lifestyle and natural resources - Impact of poor natural resource management.

UNIT-II

Land resources – Land: Definition - Land use pattern in India. Waste Land: Types. Desertification: Definition - Causes and impacts.

UNIT-III

Water resources – Hydrological cycle – Surface water - Ground water:. Dams: Uses and impacts on environment. Marine resources: Biotic and abiotic resources.

UNIT-IV

Living Resources-Agriculture-types of cultivation-high yielding varieties –HYV chemicals fertilizers& their impacts-Microbes-useful& harmful bacteria in soil , water ,Air – fungi beneficial & harmful.

UNIT-V

Forest and Mineral Resources forest produce – food- fodder – fuel wood. Fiber – Timber – Minerals –Metal & non metal resources, non – conventional energy resources

References

1. Bali, S (2000) Land Resource Management in India. Souvenir of International Conference on Land Resource Management for food, employment and environmental security, 9 – 13 November, 2000. Organized by Soil Conservation Society of India. Pp. 29 – 48.
2. Department of Land Resources (2000) Ministry of Rural Development, Government of India, New Delhi.
3. Kovda, V. A. (1977) Arid land Irrigation and soil fertility: Problems of salinity, alkalinity, compaction. In Arid land Irrigation in Developing Countries: Environmental Problems and Effects. Ed., by E. Barton Worthington. Oxford: Pergamon Press.
4. Agarwal, K.M., Sikdar, P.K., Deb., S.C (2005) A Text Book of Environment, Macmillan India Limited.

Financial Management Sem III

Introduction:

Meaning and Scope of Financial Management
Functions and Objectives of Financial Management
Changing Role of Finance Managers

Working Capital Management

Definition - GWC & NWC (Explain Core Assets & Non Core Assets)
Components of Working Capital
Factors Determining Working capital

Receivables Management

Meaning and Importance
Credit Policy Variables
Case Study on Credit Evaluation
Methods of Credit Evaluation

- Traditional and Numerical Credit Scoring

Monitoring the Debtors – Techniques

- DSO, Ageing Schedule, Collection Matrix

Cash Management

Motives Of Holding Cash
Strategies Of Cash Management
Cash Budget: Meaning and objectives
Budgeting of receipts and payments- Trading, non trading and capital
Preparation of monthly budget and finding out closing cash Balance
(Excl. Financial Statements to be made From the Working Capital Estimation)

Cost Of Capital & Capital Structures:

Types of capital
Debt
Equity
Retained Earnings
Preference
Cost of Capital for each type of capital
Weighted Cost of Capital
Marginal Cost of Capital (w.r.t. Expansion).

Designing Capital Structure Alternatives

Types of Leverages (Combined , Operating , Financial)

Capital Budgeting:

Introduction, types of capital, sources of capital

Evaluation of capital expenditure proposal from given cash flow,
concept of present value

Techniques of appraisal of investment proposal

Payback period method, Average rate of return method

Net present value method

Profitability index method

Business Restructuring

Importance

Financial Implication

Valuation

Types of Business Restructuring

Merger

Amalgamation

De-Merger

Other Restructurings

(Elementary accounting problems – testing fundamental knowledge only)

Long Term & Short Term Sources Of Finance

Traditional & Modern instruments of Finance Including
Securitizations.

Reference Books:

- 1) **Chandra Prasana**, "Financial Management", Tata Mc Graw
- 2) **Khan M & Jain**, "Financial Management", Tata Mc Graw
- 3) **James , C**, "Financial Management & Policy", Prentice Hall of India
- 4) **Pandey, I.M**, "Financial Management", Tata Mc Graw Hill
- 5) **Horne, J., Walchowicz, J.**, "Fundamentals of Financial Management", Prentice Hall of India
- 6) **Bhalla V**, "Investment Management", S. Chand
- 7) **Diwan P**, "Financial Management", Pentagon
- 8) **Bhalla V.K**, "Financial Management", Amol
- 9) **Kapur S.**, "Financial Management", S. K. Publishers
- 10) **Alexander Hamilton**, "Financial Management Handbook", Global Books
- 11) **Helfert**, "Techniques of Financial Management", Jaico Publishing House.

SEMESTER IV

Environmental Safety, health and Management (B.Sc. Environment Management Sem IV

UNIT-I

Definition- need for good health- factors affecting health. Types of diseases {deficiency, infection, pollution diseases}. Personal hygiene- food (balanced diet). Food habits & cleanliness, food adulterants, avoiding smoking, drugs & alcohols.

UNIT-II

Public health: communicable diseases, mode of transmission (epidemic and endemic diseases). Management of hygiene in public places (railway stations, bus stands and other public places).

UNIT-III

Occupational health and safety. Occupational health and hazards-physical-chemical and biological. Occupational diseases- prevention and control.

UNIT-IV

Industrial safety and management techniques: Industrial safety standards and regulations. Accidents-definitions-prevention and control.

UNIT-V

Safety management system- concepts of safety management systems- EMS ISO 14000 and 14001. OSHA. PUBLIC LIABILITY INSURANCE ACT- MINING ACT.

REFERENCES

1. Scoot, R..M. 1997.Basic concepts of industrial hygiene, Lewis Publisher, New York
2. Diberardins L.J. , 1998.Hand book of occupational safety and health, John Willey, New York
3. Park J.E. and Park, Preventive and social medicine.
4. Schilling R.S.E. 1973.Occupational health practice, Buffer Worth, London,
5. Khan M.A.O., John.P, Bederka.S. , 1974. Survival in toxic environment, Academic Press, New York .

Environmental Pollution and Management (B.Sc. Environment Management) Sem IV

UNIT-I

Water pollution – sources & types of water pollution – physical, chemical & biological – effect of water pollution. Drinking water quality standards waste water treatment – primary, secondary, tertiary-water pollution prevention & control act – 1974.

UNIT-II

Air pollution –structure and composition of atmosphere – classification, sources & effects of air pollution – Acid rain –green house effect – global warming – Ozone depletion.

UNIT-III

Prevention and control of air pollution particulate control – settling chamber, scrubber, bag filter, cyclones electrostatic precipitators. Gaseous emission control methods. Air pollution prevention and control Act 1981.

UNIT-IV

Soil Pollution – soil pollutants – types – sources, effects & Control. Noise Pollution – sources effects & Control.

UNIT-V

Government Agencies & Programs – The Tiwari committee – creation of NCEPC, Department of Environment & Forest – Function of State Pollution Control Board.

References

1. Rao, M. N and H.V.N. Rao (1993) Air Pollution, Tata McGraw – Hill Publishing Company Limited. New Delhi.
2. Kudesia, V.P and Ritu Kudesia (1992) Water Pollution, Pragati Prakashan Publication, Meerut.
3. Sawyer, C. N., P.L McCarty and G.F. Perkin (1994) Chemistry for Environmental Engineers, II Edition. McGraw-Hill.
4. Sharma, B.K and H.Kaur (1994) Soil and Noise Pollution. Goel Publishing House, Meerut.
5. Kumarasawmy, K., A. Alagappa Moses and M. Vasanthi (2004) Environmental Studies (A Text Book for All Under Graduate Students) Bharathidasan University Publications.

Environmental Economics – II Sem IV

Social Choice: Individual Preferences Regarding Environmental Protection; Biocentrism; Anthropocentrism; Sustainability; Pareto Criterion; Potential Pareto Improvement; Social Welfare Functions; Arrows Impossibility Theorem; Criticism of Utilitarianism

- Efficiency and Markets: Efficiency in the Exchange of Goods and Bads; Efficiency in Production; First Welfare Theorem; Second Welfare Theorem; Consumer and Producer Surplus; Cost Benefit Analysis
- Market Failure: Public Bads and Externalities - Public Goods and Bads; Pricing of Private versus Public Goods and Bads; Lindahl Prices and free riding; Externalities
- Methods to derive the Demand for Environmental Goods: Hedonic Price Method; Property Values; Wage Regressions and Value of Statistical Life; Household Production; Defensive Expenditures; Travel Cost Method; Stated Preferences via Contingent Valuation;
- Use versus Non-use values; Willingness to Pay versus Willingness to Accept
- Regulating Pollution: Command and Control vs.Environmental Taxes vs.Cap and Trade vs.Liability
- Pigouvian Fees: Single Polluter single damage; Single Polluter multiple damages; Multiple Polluter and the Equimarginal Principle; Fees Versus Subsidies; Fees and Imperfect Competition
- Regulation with Unknown Control Costs: Prices versus Quantities (Environmental Taxes versus Cap and Trade); Coase Theorem and Allocation of Property Rights.

Customer relationship management Sem IV

MODULE I

Changing Nature of Marketing and Customer Service – Marketing – An Introduction –The Marketing Orientation – Factors Necessitating a Re-look at Marketing Methods – Changing Social Trends – Lesser Government Controls Rising Income Levels – Threats from New Forms – Characteristics of the Empowered Customer – Increased Demand –Easy Access to Information – Emerging Trends in Marketing –Shorter Product Life Cycles.

MODULE II

Emergence of Permission Marketing – Experimental Marketing – Offering Complete Solution – Rewarding Loyal Customers- Disruptive Innovations – The Changing Nature of Customer Service – Challenges In Modern Day Customer Service -Emerging Trends in Services Marketing Mix –Customer Experience –The New Differentiator – Managing Service Better – Emergence of CRM –Economics of Building Customer Relationship – Customer Lifetime Value – Benefits of Customer Loyalty – Benefits of Choosing The Right Customers – Customer Value and Customer Satisfaction:Precursors to CRM – Customer Value.

MODULE III

Enhancing Value of Products and Services – Customer Satisfaction – CRM and Customer Satisfaction – Delighting the Customer – Measuring Relationship at Risk Effects on Customer Loyalty – Role of CRM on Various Stages of the Studies – The Customer Lifecycle – Role of CRM in Pre-purchase Stage – Role of CRM in Purchase Stage – Role of CRM in Usage Stage - Role of CRM In Re-purchase Stage – Role of CRM in Winning Back Lost Customers – CRM – The Basis Concepts – Consideration to Decide the Key Customers – Strategies for Key Customers

MODULE IV

Segmentations Campaign Management – Cross-selling and Up-selling – Multi – Channels – Sales Force Automation – Operational and Analytical CRM – Planning for CRM – Building Customer Centricity – Setting CRM Objectives – Defining Data Requirements – Planning The Requirements Elements in the CRM Plan – Relevant Issues in the CRM Plan - CRM Strategy – Strategic Orientation for CRM - Extending the Concept of Relationship

MODULE V

The Technology Orientation - A Strategic Framework for CRM - Planning for Success – Change Management – Selling Change –Training – Role of IT and Tools for CRM – CRM Strategy and Technology – Capturing Data – Steps in Preparing the IT Systems for CRM – Choosing The CRM Tool – Using IT Systems for Better CRM – Issues for Consideration In CRM Tools Selection – Tools for CRM – e CRM – Basic Concepts of e CRM – Benefits of e CRM.

MODULE VI

Steps in e CRM – Success Factors in e CRM – Establishing Customer Relationship on the Internet – Complete Information for Customers – CRM Implementations – Preparing for CRM Implementation – Dimensions of CRM Implementations – Technology Issues in CRM Implementation – Steps in CRM Implementations – Expected Benefits of CRM Implementations – CRM Implementations –Best Practices - Guarding against CRM Failures – A Clearly defined CRM Strategy – Creating the Right Culture – Proper use of Knowledge Management – Ensuring that the CRM Implementation is Done Right – CRM In Practice – CRM In Manufacturing –CRM in Insurance – CRM In Airlines – CRM IN Hotels – CRM in Telecom – CRM in SMB Segment

TEXT BOOK:

Kaushik Mukerjee, “Customer Relationship Management”, PHI, New Delhi, 2007.

Occupational Health & Safety Sem IV

- Health and safety foundations, Policy, Organizing for health and safety, Promoting a positive Health and Safety Culture;
- Risk assessment, Principles of control, Incident investigation, Recording and Reporting;
- Movement of people and vehicles, Hazards and Control, Manual and Mechanical Handling Hazards and Control;
- Work Equipment Hazards and Control, Electrical hazards and control, Fire Hazards and Control;
- Chemical and Biological Health Hazards and Control;
- Physical and Psychological Health Hazards and Control;
- Construction activities - Hazards and Control;
- Monitoring, Review and Audit; and
- Cases, presentations and exercises.

Management Information Systems Sem IV

1	<ul style="list-style-type: none"> ❖ Basic Information Concepts and Definitions ❖ Need for Information and Information Systems (IS) in an organization ❖ Characteristics of Information and Organisation with respect to organization form, structure , philosophy, hierarchy etc
2	<ul style="list-style-type: none"> ❖ Types of IS – Transaction ❖ Operational Control ❖ Management Control ❖ Decision Support ❖ Executive Information Systems
3	<ul style="list-style-type: none"> ❖ Determining Information Needs for an Organisation/Individual Manager ❖ Overview of use of data flow method, analysis of information for decision processes etc.
4	<ul style="list-style-type: none"> ❖ Strategic use of Information and IS – Use of Information for Customer Bonding ❖ For Knowledge Management ❖ For innovation, ❖ For Managing Business Risks ❖ For Creating a new business models and new business reality.
5	<ul style="list-style-type: none"> ❖ Information Security – ❖ Sensitize students to the need for information security ❖ Concepts such as confidentiality, Integrity and Availability. Types of threats and risk, overview of some of the manual, procedural and automated controls in real life IT environments.
6	<ul style="list-style-type: none"> ❖ Case Studies and Presentations

Reference Text:

1. MIS a Conceptual Framework by Davis and Olson
2. Analysis and Design of Information Systems by James Senn
3. Case Studies : Case on ABC Industrial Gases – Author : Prof Pradeep Pendse
Mrs Fields Cookies – Harvard Case Study
Select Business Cases identified by each Group of Students for work thru the entire subject
- 2-3 Cases on Requirements Management – Author : Prof Pradeep Pendse
4. O'brien: MIS (TMH)
5. Ashok Arora & Bhatia: Management Information Systems (Excel)
6. Jessup & Valacich: Information Systems Today (Prentice Hall India)
7. L. M. Prasad : Management Information Systems (Sultan Chand)

Project Submission – I

SEMESTER V

Environmental Impact Assessment Sem V

UNIT-I

EIA – Introduction – Concept of EIA- Scope and object of EIA – Organization responsible for EIA – Site selection and area classification- Siting and setting criteria for EIA projects.

UNIT-II

Description of the environmental setting – Inclusion or Exclusion of environmental Items – Some suggested approaches for developing a list of environmental Factors – Informational Sources for Environmental factors.

UNIT-III

Various steps of EIA – Content of EIA – Assessment methodology- Ad-hoc, Overlay, Network, Matrix and checklist . Cost benefit analysis - Case studies, Hydroelectric projects , Mining, Power plant Roads and airports.

UNIT-IV

Environmental Impact Assessment Notification (1994): Procedure for Environmental Clearance, List of the projects requiring Environmental Clearance, Composition of Expert Committee for Impact Assessment, Public hearing Committee, Procedure for public hearing - Project clearance.

UNIT-V

Detailed content of EIS – Use of visual display methods – Statement documentation – general writing suggestion.

Reference books

1. Rau, J.G. and Wooten, D.C (1980) Environmental Impact Analysis Hand Book, Mc Graw Hill, USA.
2. Canter, L. W. (1977) Environmental Impact Assessment. McGraw-Hill, New York.
3. Erickson, P.A. (1977) Environmental Impact Assessment – Principles an Applications McGraw-Hill, New York.
4. Munn, R. E. (1982) Environmental Impact Assessment. McGraw-Hill, New York.

Strategic Management Sem V

Introduction to Strategic Management

Definitions & concepts

(Company / Business / Management levels)

Nature, importance & benefits of Strategic Management Strategic

Management models & guidelines for effective Strategic Management

Overview of Strategic Management Process

Strategy Formulation

- Setting objectives (Vision, Mission, goals)
- Analysing internal and external environment (SWOT)
- Strategy making
- Entrepreneurial Model
- Adaptive Model
- Planning Model

Types of strategies

Analysing and choosing the right strategy

Strategy Implementation

Implementation of strategy to functional areas

- Production
- Operations
- Marketing
- Finance
- Human Resource Management
- Others (R & D, Innovation, Quality enhancement etc)

Strategy Evaluation

- Review
- Feedback
- Control

General Characteristics of an effective Evaluation System

Contingency planning and Auditing

Reference Books

1. **Fred. R. David**, "Strategic Management - Concepts and Cases", Prentice Hall India
2. **Thomas.L.Wheelen, J.David Hunger,Krish Rangarajan**, "Concepts in Strategic Management and Business Policy", Pearson Education
3. **Andrews**, "Strategic Management"
4. **Guillick**, "Strategic Management - Concepts and Cases"
5. **Philip Sadler**, "Strategic Management", Kogan Page
6. **Parnell John A**, "Strategic Management:Theory and Practice", Biztantra
7. **McCain Roger A**, "Game Theory : A Non-Technical Introduction to the Analysis of Strategy", Thomson Learning
8. **Black J Stewart, Gregersen Hall B**, "Leading Strategic Change: Breaking through the Brain Barrier", Pearson Education
9. **Forgang William G**, "Strategy Specific Decision Making: A Guide for Executive Competitive Strategy", Prentice Hall India
10. **Gupta Vipin,Gollakota, Kamala Srinivasan R**, "Business Policy and Strategic Management: Concepts and Application", Prentice Hall India
11. **Mellahi Kamel Frynas, Jdrzej G, Finlay Paul**, "Global Strategic Management", Oxford
12. **Rinkie Wofl J**, "6 Proven Strategies for building High Performance organizations Winning Management", Jaico Publicaton House
13. **Namakumari, Ramaswamy**, "Strategic Management", Macmillan India

Entrepreneurship Management Sem V

Unit – 1

- Concept, meaning and definition of entrepreneur and entrepreneurship.
- Importance and significance of growth of entrepreneurial activity.
- Concept of intrapreneur.
- Characteristics and qualities of entrepreneurs
- Classification and types of entrepreneurs.
- Women entrepreneurs
- Theories of entrepreneurship
- Contribution of Mc Clelland and Joseph Schumpeter

Unit – 2

- Factors influencing entrepreneurial development and motivation.
- Role of culture in entrepreneurial development.
- Entrepreneurial development programme (EDP), **Managing the problems faced by entrepreneurs**
- Development of women entrepreneurs-with reference to SHGs
- Options available to entrepreneurs,-ancillarisation franchising and
- outsourcing. **Cases on takeover, mergers and acquisitions in India and at global level.**
- Social Entrepreneurship-Definition,importance and social responsibilities- NGOs

Unit – 3

Entrepreneurial Project Development

- Idea generation – sources and methods
- Identification and classification of ideas.
- Environmental Scanning and SWOT analysis
- Preparation of project plan –Points to be considered
- Components of an ideal business plan – market plan, financial plan,
- operational plan, and HR plan.
- Project formulation –project report significance and contents
- Project appraisal –Aspects and methods :
- Economic oriented appraisal
- Financial appraisal
- Market oriented appraisal
- Technological feasibility
- Managerial competency

Reference Books

- 1) **Dr. Vasant Desai**, “*Small scale industries and entrepreneurship*”, Himalayan Publishing House
- 2) **Dr. Vasant Desai**, “*Management of small scale industries*”, Himalayan Publishing House
- 3) **J.C. Saboo, Megha Biyani**, “*Management of small scale industries*”, Himalayan Publishing House
- 4) **Dr. Vasant Desai**, “*Dynamics of entrepreneurial development and Management*”, Himalayan Publishing House
- 5) **Moharanas and Dash C.R.**, “*Entrepreneurship development*”, RBSA Publishing, Jaipur
- 6) **Collins and Lazier W**, “*Beyond entrepreneurship*”, Prentice Hall, New Jersey, 1992
- 7) **Hisrich Peters Shephard**, “*Entrepreneurship*”, Tata McGraw Hill
- 8) **S. K. Mohanty**, “*Fundamentals of entrepreneurship*”, Prentice Hall of India
- 9) **David Oates**, “*A Guide to Entrepreneurship*”, Jaico Publishing House, Mumbai, Edn 2009

Environmental Legislation Sem V

1. Constitutional Provisions for Environmental Protection: Specific Provisions for Environmental Protection in the Constitution of India, Provisions in the Directive Principles of State Policy.

2. Environmental Acts, Rules and Notifications:

The following environmental Acts/Rules will be discussed in details; the rest of the acts, rules and

notifications will be referred to:

- a) Water (Prevention & Control of Pollution) Act and the corresponding Rule
- b) Water (Prevention & Control of Pollution) Cess Act and the corresponding Rule
- c) Air (Prevention & Control of Pollution) Act and the corresponding Rule
- d) Environment (Protection) Act and Rule
- e) Hazardous Waste (Management & Handling) Rules
- f) Manufacture, Storage and Import of Hazardous Chemicals Rules
- g) Public Liability Insurance Act and Rule

Refer to MoEF Website (<http://envfor.nic.in>) for the latest revisions, amendments etc.

3. Important Judgments and Cases: Discussion on landmark cases: Sriram Chemicals Oleum Leak Case, Bhopal Gas Leak case, Ganga Action Plan case etc. Green Benches.

Reference books

1. R. K. Trivedy – Handbook of Environmental Laws, Guidelines, Compliance & Standards, Vol. 1 & 2 Environ – Media karad, India
2. Mhaskar A. K. Environmental Laws

PROJECT MANAGEMENT Sem V

MODULE I

Project Definition – Project Life Cycle – Project objectives – purpose of Project Management – Project Management Maturity – Project Selection and Choice – Types of Project – Selection Models – Analysis under Uncertainty and Risk – Project Portfolio Process.

MODULE II

Functional Manager vs. Project Manager – Project Responsibilities – Demands on the Project Manager – Project Manager Selection – Culture and the Project impact of Institutional Environments – Need for Multicultural Communications.

MODULE III

Project Organization – Pure Project Organization – Matrix – Mixed Organizational Systems – choosing a Firm – Risk Management – Project Management Office – The Project Team – Human Factors and the Project Team – Sources of Conflict.

MODULE IV

Project Planning and Coordination – Systems Integration – Action Plan – Work Breakdown Structure – Partnering - Chartering – Categories of Conflict – Principles of Negotiation – Top Down and Bottom Up Budgeting – Activity vs. Program Budgeting.

MODULE V

Network Techniques PERT and CPM – Precedence Programming – Resource Loading – Leveling – Goldratt's Critical Chain – Monitoring System Design – Reporting Process – Project Management Information Systems (PMIS).

MODULE VI

Project Control – Purposes, Types – Three Types of Control Processes – Post Control – critical Ratio and Control Charts – Balance in Control System – Project Auditing – Purpose of Evaluation – use of Audit Report Product Audit Life Cycle – Measurement varieties of Project Termination.

TEXTBOOK

Jack.R Meredith and Samuel J.Mantel Jr, "Project Management, A Managerial Approach",

Business Ethics Sem V

Introduction to Business Ethics

- Normative ethics, Prescriptive ethics and Applied ethics
- Ethics, Morality and Legality
- Concept of Right and Duty : Business – Western and Indian
- Perspectives, Definition and Scope Relevance in social changes
- Ethical organism and corporate code of conduct

Business Ethics – Conceptual Background

- Conceptual Approaches to Business Ethics
- Egoism vs. Altruism
- Entrepreneur and Manager – Role and Responsibilities
- Responsibilities towards stakeholders: an overview
- Profit – making; An Objective with an ethical dimension

Indian Perspective of Ethics

- Purusharthas: Dharma, Artha, Kama, Moksha
- Concept of Dharma

Ethics: A Global Perspective:

- Ethics in Global Marketing & Advertising
- Ethical perspective in Employment including in the international labour Organization Standards.
- Ethics and IT : E-commerce, Privacy Codes.
- Environmental Ethics: Indian and Western perspectives
- Ethics and Cross- culture influences
- Ethical issues and functional aspects of business

Reference Books

- 1) **William Lillie**, “An Introduction to Ethics”, Universal Paperbacks
- 2) **S.K. Chakrabroty**, “Wisdom leadership : Dialogues and Reflections”, Wheeler Publishing
- 3) **Kenneth Blanchard & Norman Vincent Peale**, “The Power of Ethical Management”, William Morrow & Co, Inc,
- 4) **R.M. Lala**, “In search of Ethical Leadership”, Vision Books Pvt. Ltd
- 5) *Living within – The Yoga Approach to Psychological Health and Growth* (Sri Eurobond Ashram, Pond cherry.)
- 6) **Dr. R.R.Khan**, “Management and HRD”, Fine Publishing House
- 7) **Stuart Rainer** *Key Management ideas : Thinking that changed the Management world – Macmillan India Ltd.*
- 8) **Susan J. Bethanis**, “Leadership Chronicles of a Corporate Sage : Five Keys to Becoming a more Effective leader”, Ed corpus Colossus Learning Pvt. Ltd.
- 9) **R.R. Prasad, S.R.P. Shukla, Ashok Kumar**, “Indian Management Emerging Responses”, Tata McGraw- Hill Publishing Company Limited

10) *Buried Treasure – Discovering and Implementing the Value of Corporate Social Responsibility* – Caleb Wall – Greenleaf Publishing – 2008.

11) **Jayashree Sadri, Sorab Sadri and Dhun Dastoor**, “*The Theory and Practice of Managerial Ethics*”, 2nd Edn, 2006, Jaico Publishing House, Mumbai.

12) **Joseph Des Jardins**, “*An Introduction to Business Ethics*”, Tata Mc Graw Hill, 2nd Edition, 2009.

SEMESTER VI

Corporate Social Responsibility (CSR) Sem VI

I. Building Blocks of CSR / Sustainability

1. Overview of CSR/Sustainability
2. The Triple Bottom-line Approach
3. Philanthropy – Conventional and Strategic
4. Environmental issues
5. Social issues
6. Labour and related issues
7. Ethical and Governance issues
8. Human Rights – UN Charter

II. Standards and Codes

1. ISO – 14001
2. OHSAS – 18001
3. SA – 8000
4. OECD Guidelines for Multinational Companies
5. Global Compact
6. AA – 1000
7. BS / ISO Guideline on CSR Management (ISO-26000)

III. Engaging the stakeholder

1. Global Reporting Initiative Guideline G-3
2. NGO and CSR
3. Programmes for the neighborhood
4. Markets at the BOP
5. Communication
6. Dilemmas
7. Dow Jones Sustainability Index / FTSE4GOOD Index

IV. Cases and Papers

1. What is a Business for? Charles Handy, Harvard Business Review, December 2002
2. The Competitive Advantage of Corporate Philanthropy, Michael E Porter and Mark R Kramer, Harvard Business Review, pp 6-16, December 2002
3. Green and Competitive: Ending the Stalemate, Michael E Porter and Class van der Linde, Harvard Business Review, pp 120-133, September-October 1995
4. What Matters Most: Corporate Values and Social Responsibility, Jeffrey Hollender, California management Review, pp 111-119, Volume 46(4), 2004
5. Corruption in International Business, Harvard Business Case 9-701-128, December 2001
6. Corporate Social Responsibility: Whether or How? N. Craig Smith, California Management Review, pp 52-76, Volume 45(4), Summer 2003

7. The Discipline of building character, Joseph L. Badaracco Jr., Harvard Business Review, pp 115-124, March – April 1998
8. Accounting Fraud at Worldcom, Robert S Kaplan and David Kiron, Harvard Business School Case study 9-104-071, May 2005, Management Lessons from Enron, B. Bowonder, TMTC, 2006
9. The Parable of the Sadhu, Bowen H. McCoy, Harvard Business Review, May-June 1997
10. Corporate Social Responsibility: the WBCSD, Geneva, 2004

General Reading:

1. Changing Course, Stephan Schmidheiny & BCSD, MIT Press, 1992
2. Harvard Business Review on Business & the Environment, Harvard Business School Press, 2000
3. The fortune at the Bottom of the Pyramid, C.K. Prahalad, Wharton School Publishing, 2005
4. The Skeptical Environmentalist: Measuring the real estate of the World, Bjorn Lomborg, Cambridge University Press, 2001
5. Cradle to Cradle: Remarking the Way We Make things, William KcDonough and Michael Braungart, North Point Press, 2002
6. Natural Capitalism: Creating the next Industrial Revolution, Paul Hawken, Amory Lovins & L. Hunter Lovins, 1999
7. The Sustainability Wave: Building Boardroom Buy-in (Conscientious Commerce), Bob Willard, 2007.

Solid & Hazardous waste management Sem VI

UNIT I SOLID WASTE:

Definition of solid wastes – types of solid wastes – Sources - Industrial, mining, agricultural and domestic – Characteristics. Solid waste Problems - impact on environmental health – Concepts of waste reduction, recycling and reuse.

UNIT II COLLECTION, SEGREGATION AND TRANSPORT OF MUNICIPAL SOLID WASTES:

Handling and segregation of wastes at source. Collection and storage of municipal solid wastes;
analysis of Collection systems. Transfer stations – labeling and handling of hazardous wastes.

UNIT III MUNICIPAL SOLID WASTE MANAGEMENT :

Solid waste processing technologies. Mechanical and thermal volume reduction. Biological and chemical techniques for energy and other resource recovery: composting, vermicomposting, termigradation, fermentation. Incineration of solid wastes. Disposal in landfills: site selection, design, and operation of sanitary landfills; Leachate and landfill gas management; landfill closure and post-closure environmental monitoring; landfill remediation. Regulatory aspects of municipal solid waste management.

UNIT IV HAZARDOUS WASTES:

Hazardous waste definition. Physical and biological routes of transport of hazardous substances – sources and characterization categories and control. Sampling and analysis of hazardous wastes – analytical approach for hazardous waste characterization – proximate analysis – survey analysis – directed analysis – analytical methods.

UNIT V HAZARDOUS WASTES MANAGEMENT:

Sources and characteristics: handling, collection, storage and transport, TSDF concept. Hazardous waste treatment technologies - Physical, chemical and thermal treatment of hazardous waste: solidification, chemical fixation, encapsulation, pyrolysis and incineration. Hazardous waste land fills - Site selections, design and operation. HW reduction, recycling and reuse, Regulatory aspects of HWM.

UNIT VI BIOMEDICAL WASTE MANAGEMENT:

Biomedical waste: Definition, sources, classification, collection, segregation Treatment and disposal.

UNIT VII RADIOACTIVE WASTE MANAGEMENT:

Radioactive waste: Definition, Sources, Low level and high level radioactive wastes and their management, Radiation standard by ICRP and AERB

UNIT VIII E-WASTE MANAGEMENT:

Waste characteristics, generation, collection, transport and disposal.

Book Recommended

1. Hazardous waste management Charles A. Wentz. Second edition 1995. McGraw Hill International.
2. Integrated solid waste management George Tchobanoglous, Hilary Theisen & Samuel A. Vigil.
3. Criteria for hazardous waste landfills – CPCB guidelines 2000.
4. Hazardous waste management by Prof. Anjaneyulu.
5. Environmental Sciences by Daniel B. Botkin and Edward A. Keller, Wiley student, 6th edition- 2009.
6. Standard handbook of Hazardous waste treatment and disposal by Harry M. Freeman, McGraw Hill 1997.
7. Management of Solid waste in developing countries by FrankFlintoff , WHO regional publications 1976.

Environment and eco tourism Sem VI

UNIT-I

Agriculture – Contribution to Economic development – food problem – land reforms in India, Bhoodan movement – Green revolution – Panchayat Raj – Community development Projects – Co – Operative movement.

UNIT-II

Rural social structure – caste system, joint family- religion caste, cultural social & psychological barriers to economic development – over coming – resistance to change.

UNIT-III

Concepts of Tourism – Classification – Religious tourism – Cultural tourism – Heritage tourism – Monumental tourism – Adventure tourism – Mars tourism – Sustainable tourism – Consumptive & non consumptive tourism.

UNIT-IV

Principles of Ecotourism – Types of Ecotourism – Concepts of Ecotourism – Objectives of Ecotourism – benefits of Ecotourism – trends affecting ecotourism.

UNIT-V

Impact of Ecotourism – Economic impacts (fiscal impacts, concepts & Methods) – Types and degree of impacts from Ecotourism activities – Socio cultural impacts – Eco tourism related organization – Ecotourism Research disasters & Ecotourism.

References

1. Agarwal, A. N (1980) Indian Agriculture, Vikas publishing House, New Delhi,
2. Weaver, D. B (2001) The Encyclopedia of Ecotourism, CABI, Publishing, U.K.
3. Sinha, P. C (2003) Encyclopedia of Ecotourism, Vol – I, II & III, Anmol publications Pvt. Ltd, New Delhi.
4. Bhatia, A. K (1978) Tourism in India

Disaster Management Sem VI

UNIT 1

Disaster – Introduction –Types of natural calamities, major and minor calamities – impact of calamities.

UNIT II

Natural disaster – cyclone – Tsunami – flood – Landslides – earth quake.

UNIT III

Manmade disaster – Wars – Biological war (introduction of pathogens) – misuse of atomic bombs –major accidents from industries e.g. Bhopal. Lov canal disaster – London Smog.

UNIT IV

Medical Management of disaster – Disaster Impacts and response – Identification of dead – Search rescue –first and relief phase – Vaccination, basic sanitation and personal hygiene.

UNIT V

Environmental Disaster – Assessment, Planning – mitigation program – preparedness – resettlement rehabilitation – role of NGOS, Gos (relief camp), Psychotherapy – simplified yoga and meditation, stress management.

References

1. Tsunami. A text book from Department of Science and Technology, New Delhi, p90.
2. Proceedings “Brainstorming seminar on Disaster Management and Mitigation programmes. Sri Venkateswara University, Tirupati, P 150.
3. Pollution control Legislations. Environmental Laws – Vol. II. Tamilnadu Pollution Control Board.
4. Shailaendra K. Singh, Subash C. Kundan and Shobu Singh (1998). Disaster Management. Mittal Publications. New Delhi.
5. Natural disasters (1980) – A guide for relief workers – JAC Adhyatma Sadhema, Kendra Mehrani, New Delhi.

Environmental Problems, Hazards and Mitigation Sem VI

Unit 1: Natural and Man made Environmental Problems:

Environmental problems associated with urbanization, industrialization, modernization of agriculture

Unit 2: Global and Regional Environmental Issues:

Green House effect – causes and associated hazards, Ozone layer depletion – causes and associated hazards, Acid rain, Deforestation and loss of bio-diversity; Major environmental problems in India

Unit 3: Problems of Urban Environment:

Municipal waste, domestic waste, industrial waste; Biomedical wastes; Road traffic and noise pollution problem, Air pollution problem, Problem of housing, drinking water and sanitation, slum areas

Unit 4: Problems of Rural Environment:

Drinking water, Domestic fuel, Food and Fodder, Sanitation, Health and Hygiene, Land degradation

Unit 5: Environmental problems related to forest and wetlands:

Human intervention, Degradation, encroachment, loss of habitats and biodiversity

Corporate Governance Sem VI

- Corporate Governance: Meaning scope & Reporting
- The Agency Theory : Principal – Agent Relationship
- Role of CEO, Board and Senior Executives
- Right of Investors and Shareholders
- Financial Regulations and their scope in CG
- Corporate governance from Cadbury committee to Narayan Murthy committee

Project Submission II