



DIRECTORATE OF DISTANCE EDUCATION

KURUKSHETRA UNIVERSITY

KURUKSHETRA — 136119

SYLLABUS AND SCHEME OF EXAMINATION OF

B.COM. — I

W.E.F. ACADEMIC SESSION 2013-14

Paper No.	Name of Paper	Internal Assessment	Theory Paper Marks	Total Marks	Time
Paper 1	Business Communication	20	80	100	3 Hrs.
Paper 2	Business Mathematics	20	80	100	3 Hrs.
Paper 3	Financial Accounting	20	80	100	3 Hrs.
Paper 4	Business Economics	20	80	100	3 Hrs.
Paper 5	Business Management	20	80	100	3 Hrs.
Paper 6	Basics of Computer (Theory) Practical	10 -	40 -	50 50	3 Hrs.
Paper 7	Environmental Studies (Compulsory Qualifying Subject)			100	3 Hrs.

Note: Ten questions shall be set in the question paper with a minimum of three questions from each unit. The candidates shall be required to attempt five questions in all, selecting at least one question but not more than two from each unit.

UNIT-I

Introducing Business Communication: Basic forms of communicating, Communication models and processes, Effective communication: Theories of communication; Audience Analysis.

Self-Development and Communication: Development of positive personal attitudes; SWOT analysis; Votes model of interdependence; Whole communication.

Corporate Communication: Formal and informal communication network Business Miscommunication (Barriers); Improving communication; Practices in business communication; Group discussions; Mock interviews; Seminars; Effective listening exercises, Individual and group presentation and reports writing.

UNIT-II

Principles of Effective Communication

Writing Skills: Planning business messages, Rewriting and editing; The first draft; Reconstructing the final draft Business letters and memo formats; Appearance request letters; Good news and bad news letters; Persuasive letters; Sales letters; Collection letters; Office memorandum.

Report Writing: Introduction to a proposal, short report and formal report, report preparation.

UNIT-III

Oral Presentation: Principles of oral presentation, factors affecting presentation, sales presentation, training presentation conducting surveys, speeches to motivate effective presentation skills.

Non-Verbal Aspects of Communicating.

Body language: Kinesics, Proxemics, Para language.

Effective Listening: Principles of effective listening; Factors affecting listening exercises; Oral, written and video sessions.

Interviewing Skills: Appearing in interviews; Conducting interviews; Writing resume and letter of application.

Modern Forms of Communicating: Fax, E-mail; Video conferencing; etc.

International Communication: Cultural sensitiveness and cultural context; Writing and presenting in international situations; Inter-cultural factors in interactions; Adapting to global business.

Time Management and Stress Management: Meaning, Causes and Techniques

Suggested Readings:

1. **Bovee and Thill:** *Business Communication Today*, Tata Mc-Graw Hill, New Delhi.
2. **Ronald E. Dulek and John S. Fielder:** *Principles of Business Communication*; Macmillan Publishing Company, London.
3. **Randall E. Magors:** *Business Communication*; Harper and Row, New York.
4. **Webster's** Guide to *Effective Letter Writing*; Harper and Row, New York.
5. **Balasubramanyam:** *Business Communications*; Vikas Publishing House, Delhi.
6. **Kaul:** *Business Communication*; Prentice Hall, New Delhi.
7. **Kaul:** *Effective Business Communication*; Prentice Hall, New Delhi.
8. **Patri VR:** *Essentials of Communication*; Greenspan Publications, New Delhi.
9. **Senguin J:** *Business Communication*; The Real World and Your Career, Allied Publishers, New Delhi.
10. **Robinson, Netrakanti and Shintre:** *Communicative Competence in Business English*; Orient Longman, Hyderabad.

External: 80**Internal: 20****Time : 3 Hours**

Note: Ten questions shall be set in the question paper with a minimum of three questions from each unit. The candidates shall be required to attempt five questions in all, selecting at least one question but not more than two from each unit.

UNIT-I

Calculus: (Problems and theorems involving trigonometrical ratios are not to be done).

Differentiation: Partial derivatives up to second order; Homogeneity of functions and Euler's theorem; Total differentials; Differentiation of implicit function with the help of total differentials. Maxima and Minima; Cases of one variable involving second or higher order derivatives; Cases of two variables involving not more than one constraint.

Integration: Integration as anti-derivative process; Standard forms; Methods of integration by substitution by parts and by use of partial fractions; Definite integration; Finding areas in simple bases, Consumers and producers surplus; Nature of Commodities Learning Curve; Leontiff Input-Output Model.

UNIT-II

Matrices and Determinants: Definition of a matrix, Types of matrices; Algebra of matrices; Properties of determinants; Calculation of values of determinants upto third order; Adjoint of a matrix, elementary row or column operations; Finding inverse of a matrix through adjoint and elementary row or column operations; Solution of a system of linear equations having unique solution and involving not more than three variables.

UNIT-III

Linear Programming Formulation of LPP: Graphical method of solution; Problems relating to two variables including the case of mixed constraints; Cases having no solution, multiple solutions, unbounded solution and redundant constraints.

Simplex Method: Solution of problems up to three variables, including cases of mixed constraints, Duality; Transportation Problem.

Compound Interest and Annuities: Certain different type of interest rates; Concept of present value and amount of a sum; Types of annuities; Present value and amount of an annuity, including the case of continuous compounding; Valuation of simple loans debentures; Problems relating to sinking funds.

Suggested Readings:

1. **Allen, R.G.D.** : *Basic Mathematics*; Macmillan, New Delhi.
2. **Dowling, E.T.** : *Mathematics for Economics*; Schaum Series, McGraw Hill, London.
3. **Loomba, Paul**: *Linear Programming*. Tata McGraw Hill, New Delhi.
4. **Vohra, N.D.**; *Quantitative Techniques in Management*; Tata McGraw Hill, New Delhi.
5. **Soni, R.S.**: *Business Mathematics*; Pitamber Publishing House.
6. **Kapoor, V.K.**: *Business Mathematics*; Sultan Chand & Sons. Delhi.
7. **Holden**: *Mathematics for Business and Economics*; Macmillan India, New Delhi.

PAPER-3 FINANCIAL ACCOUNTING**External: 80****Internal: 20****Time : 3 Hours**

Note: Ten questions shall be set in the question paper with a minimum of three questions from each unit. The candidates shall be required to attempt five questions in all, selecting at least one question but not more than two from each unit.

UNIT-I

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

Accounting Principles: International accounting standards (only outlines); Accounting principles; Accounting standards in India (only outlines).

Accounting transactions: Accounting Cycle; Journal; Rules of debit and credit; Compound journal entry, Opening entry; Relationship between journal and ledger; Rules regarding posting; Trial balance; Sub-division of journal.

Capital and Revenue: Classification of Income; Classification of expenditure, Classification of receipts, Accounting concepts and Income measurement; Expired cost and income measurement.

Final accounts: Manufacturing accounts; Trading account; Profit and loss account; Balance Sheet, Adjustment entries.

Rectification of errors: Classification of errors; Location of errors; Rectification of errors; Suspense account; Effect on profit.

UNIT-II

Depreciation Provisions, and Reserves: Concept of depreciation; Causes of depreciation; Depreciation depletion, amortization, and dilapidation; Depreciation accounting; Methods of recording depreciation, Methods for providing depreciation; Depreciation of different assets; Depreciation of replacement cost, Depreciation policy as per Accounting Standard; Depreciation Accounting; Provisions and reserves.

Accounts of Non Trading Institutions.

Special Accounting Areas

Consignment Accounts: Important terms; Accounting records; Valuation of unsold stock; Conversion of consignment into branch.

Joint Venture Accounts: Meaning of joint venture; Joint venture & partnership; Accounting records.

Branch Accounts: Dependent Branch; Debtors system, stock and debtor system; Final accounts system; Wholesale branch; Independent branch; Foreign branch.

UNIT-III

Hire-purchase and installment purchase system: Meaning of hire-purchase contract; Legal provision regarding hire-purchase contract; Accounting records for goods of substantial sale values, and accounting records for good of small values; Installment purchase system, After sales service.

Partnership Accounts: Essential characteristics of partnership; Partnership deed; Final accounts; Adjustments after closing the accounts; Fixed and fluctuating capital, Goodwill; Joint Life Policy, Change in Profit Sharing Ratio.

Reconstitution of a partnership firm - Admission of a partner; Retirement of a partner; Death of a partner; Amalgamation of partnership firms; Dissolution of a partnership firm - Modes of dissolution of a firm; Accounting entries; Insolvency of partners; Sale of firm to a company; Gradual realization of assets and piecemeal distribution.

Suggested Readings:

1. **Anthony, R.N. and Reece, J.S. :** *Accounting Principles*; Richard Irwin Inc.
2. **Gupta, R.L. and Radhaswanmy, M.:** *Financial Accounting*; Sultan Chand and Sons, New Delhi.
3. **Monga, J.R. Ahuja, Girish and Sehgal, Ashok :** *Financial Accounting*; Mayur Paper Back, Noida.
4. **Shukla, M.C., Grewal, T.S. and Gupta, S.C. :** *Advanced Accounts*; S. Chand & Co. New Delhi.
5. **The Institute of Chartered Accountants of India:** *Compendium of Statement and Standards of Accounting*, New Delhi.

External: 80
Internal: 20
Time : 3 Hours

Note: Ten questions shall be set in the question paper with a minimum of three questions from each unit. The candidates shall be required to attempt five questions in all, selecting at least one question but not more than two from each unit.

UNIT-I

Introduction: Basic problems of an economy; Working of price mechanism.

Elasticity of Demand: Concept and measurement of elasticity of demand; Price, income and cross elasticities, average revenue, marginal revenue, and elasticity of demand; Determinants of elasticity of demand; Importance of elasticity of demand.

Production Function: Law of variable proportions; Iso-quants; Economic regions and optimum factor combination; Expansion path; Returns to scale; Internal and external economies and diseconomies; Ridge lines.

UNIT-II

Theory of Costs: Short-run and long-run cost curves - traditional and modern approaches.

Market Structures: Market structures and business decisions; Objectives of a business firm.

- (a) **Perfect Competition:** Profit maximization and equilibrium of firm and industry; Short run and long-run supply curves; Price and output determination. Practical applications.
- (b) **Monopoly:** Determination of price under monopoly; Equilibrium of a firm, Comparison between perfect competition and monopoly; Multi-plant monopoly; Price discrimination, Practical applications.
- (c) **Monopolistic Competition:** Meaning and characteristics; Price and output determination under monopolistic competition; Product differentiations, Selling costs, Comparison with perfect competition; Excess capacity under monopolistic competition.
- (d) **Oligopoly:** Characteristics, indeterminate pricing and output; Classical models of oligopoly; Price leadership; Collusive oligopoly; Kinked demand curve.

UNIT-III

Factor Pricing-I: Marginal Productivity theory and demand for factors; Nature of supply of factor inputs; Determination of wage rates under perfect competition and monopoly; Exploitation of labour; Rent- concept; Ricardian and modern theories of rent; Quasi-rent.

Factor Pricing-II: Interests - concept and theories of interest; Profit - nature, concepts and theories of profit.

Suggested Readings:

1. **John P. Goulet Jr. and Edward P. Lazear :** *Micro-economic Theory*; All India Traveller, Delhi.
2. **Browning Edger K. and Browning Jacquenlence, M.:** *Micro-economic Theory and Applications*; Kalyani, New Delhi.
3. **Watson Donald S. and Getz Molcolm:** *Price Theory and Its Uses*, Khosla Publishing House, New Delhi.
4. **Koutsoyianni A. :** *Modern Micro-economics*; Macmillan, New Delhi.
5. **Richard G. Lipsly:** *An Introduction to Positive Economics*; ELBS, Oxford.
6. **Fitgler G.:** **The Theory of Price:** Prentice Hall of India.
7. **Nellis & Parker:** *The Essence of Business Economic' s*; Prentice Hall, New Delhi.
8. **Ferguson, P.R. and Rothschild, R. and Ferguson, G.J.:** *Business Economics*; Macmillan, Hampshire.
9. **Ahuja, H.L.:** *Business Economics*; S. Chand & Co. New Delhi.

PAPER-5

BUSINESS MANAGEMENT

External: 80

Internal: 20

Time : 3 Hours

Note: Ten questions shall be set in the question paper with a minimum of three questions from each unit. The candidates shall be required to attempt five questions in all, selecting at least one question but not more than two from each unit.

UNIT-I

Introduction: Concept, nature, process and significance of management; Managerial roles (Mintzberg); An overview of functional areas of management; Development of management thought; Classical and neo-classical systems; contingency approaches.

Planning: Concept, process, and types. Decision-making-concept and process.

Bounded rationality, management by objectives, Corporate planning; Environment analysis and diagnosis; Strategy formulation.

UNIT-II

Organizing: Concept, nature, process, and significance; Authority and responsibility relationships; Centralization and decentralization; Departmentation; Organization structure forms and contingency factors.

Motivating and Leading people at Work: Motivation concept; theories - Maslow, Herzberg, Megrcgor, and Ouchi; Financial and non-financial incentives.

Leadership: Concept and leadership-styles; leadership theories (Tannenbaum and Schmidt); Likert's System Management.

Communication: nature, process, networks, and barriers, Effective communication.

UNIT-III

Managerial Control: Concept and process; Effective control system; Techniques of control-traditional and modern.

Management of Change: Concept, nature and process of planned change: Resistance of change, Emerging horizons of management in a changing environment.

Suggested Readings:

1. **Drucker, Peter F. :** *Management Challenges for the 21st Century*; Butterworth Heinemann, Oxford.
2. **Wehrich and Koontz, et al. :** *Essentials of Management*; Tata McGraw Hill, New Delhi.
3. **Fred Luthans :** *Organizational Behaviour*; McGraw Hill, New York.
4. **Louis A. Allen :** *Management and Organization*; McGraw Hill, Tokyo.
5. **Ansoff, H.J. :** *Corporate Strategy*; McGraw Hill, New York.
6. **Hampton, David R. :** *Modern Management*; McGraw Hill, New York.
7. **Stoner and Freeman :** *Management*; Prentice-Hall, New Delhi.
8. **Maslow, Abraham :** *Motivation and Personality*; Harper & Row, New York, 1954.
9. **Hersey Paul and Blanchard Kenneth :** *Management of Organization Behaviour Utilizing the Human Resources*; Prentice Hall of India, New Delhi.
10. **Bancevish, J.M. and Matleson, M.T. :** *Organizational Behaviour & Management*; Irwin Homewood, Illinois.

(A) Theory**External: 40****Internal: 10****Time : 3 Hours**

Note: Eight questions will be set in the question paper. The candidates shall be required to attempt any five questions.

Introduction to computers: Definition, components, evolution and classification. Input devices, Output devices. Computer memory-memory systems, memory hierarchy, types of memory; RAM,ROM, Secondary memory and backup.

Computer software — definition, and types. Operating systems, Translators, Utilities, Application software, User interface —CUI, GUI.

Introduction to Windows: as operating system, Windows Explorer, Paintbrush, Control Panel, My Computer, Recycle Bin, etc

MS-WORD- fundamentals and features, Menus-formatting and standard toolbars, working with frames, Paragraph formatting, Columns, tables, Macros and Mail Merge,

MS-Excel- application of spreadsheet, features of Excel, Menus, Creating and Formatting worksheet, Printing, establishing worksheet links, printing graphs, macros, Making formulae in MS Excel.

REFERENCES

1. Pardeep K Sinha, (2010) Computer Fundamentals,
2. Bajaj, Kamlesh K and Debjani Nag: E-commerce- The Cutting Edge of Business, Tata McGraw Hill (P) Ltd., New Delhi.
3. Greenstein, Electronic Commerce, Tata McGraw Hill, New Delhi
4. Leon, Alexis: Fundamental of Information Technology, Vikas Publication House (P) Ltd., New Delhi
5. Mansfield, Ron: The Compact Guide to Microsoft Office, BPB Publication, Delhi.
Norton, Peter: Introduction to Computer 4/E, Tata McGraw Hill (P) Ltd., New Delhi.
6. Saxena, Sanjay: A First Course in Computer, Vikas Publication House (P) Ltd., New Delhi.

(B) Practical External: 50

Max. Marks: 50

Time : 3 Hours

MS Word

MS-Excel

Windows

Preparation of Accounts through Telly System/Software

PAPER-7

**SCHEME AND SYLLABUS FOR THE SUBJECT OF
ENVIRONMENTAL STUDIES**

The "Six month module syllabus for Environmental Studies for U.G. Courses" supplied by the UGC for the subject was approved for adoption in the Universities of the State. The subject is to be taught in 1st year of the U.G. Course.

The subject of Environmental studies will be included as a qualifying paper in all UG Courses (including professional courses also) from the session 2004-05 and the students will be required to qualify the same otherwise the **final result** will not be declared and **degree** will not be awarded.

Since the module syllabus for Environmental Studies for U.G. Courses supplied by the UGC has been adopted in to, the scheme of examination proposed by the UGC has been approved by the Vice-Chancellor along with the syllabus of the course under section 11(5) of KU Act, 1986 so that the same becomes operative from the session 2004-05.

Credit System: The core course will be awarded 4 credits.

Exams. Pattern: In case of awarding the marks, the question paper should carry 100 marks. The structure of the question paper being:

Paper-I	PART-A	:	Short Answer Pattern	25 Marks
	PART-B	:	Essay type with inbuilt choice	50 Marks
Paper -II	PART-C	:	Field Work (Practical)	25 Marks

Annual System: The examination of this compulsory qualifying subject of Environmental Studies in case of the DCC candidates will also be conducted by the Examination Branch of the University along with the annual examinations of other theory papers of the DCC candidates of the respective UG streams. With regard to the Field Work (Practical), the DCC candidates will be required to submit a Report of Practical Assignment of around 20 pages neatly written/typed, duly bound by 30 March of the session which will be got evaluated by the Examination Branch of the University as in case of Practical Assignments/Project Report submitted by the DCC candidates of other courses.

Instructions for the Examiners

Part-A Question 1 is **compulsory** and will contain ten short-answer type question of 2.5 marks each covering the entire syllabus.

Part-B Eight essay type questions (with inbuilt choice) will be set from the entire syllabus and the candidates will be required to answer any four of them. Each essay type question will be of the 12-1/2 marks.

PCP/Contact Classes:

The subject of Environmental Studies will also be taken up in the PCPs/Contact classes to be arranged by the University/Service Providers at their Study Centres/Study Centres in the affiliated colleges of the University with number of lectures at par with other subjects/papers of the respective courses.

Each candidate will be required to score minimum of 35% marks each in theory and Practical separately. The marks obtained in this qualifying paper will not be included in Determining the percentage of marks/division obtained by them for the award of '**degree**'. However, these will be shown in the detailed marks certificate of the student.

The candidates, who will not be able to pass in the subject of Environmental Studies (Theory and/or Field Work (Practical) in 1st year will have to qualify the same by appearing in the examination of Environmental Studies in 2nd year or 3rd year or thereafter by submitting a separate examination form and examination fee of Rs. 50/- as an ex-student as in the case of 'Reappear/Compartment candidates. There will, however, be no supplementary examination in the subject of Environmental Studies.

**CORE MODULE SYLLABUS FOR ENVIRONMENTAL STUDIES
FOR UNDER GRADUATE COURSES OF ALL BRANCHES OF
HIGHER EDUCATION (AS APPROVED BY THE U.G.C.)**

UNIT-1: The **Multidisciplinary** nature of environmental studies Definition; Scope and importance, Need for public awareness.

UNIT-2: Natural Resources:

Renewable and non-renewable resources:

Natural resources and associated problems.

- a) Forest resources: Use and Over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
 - b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
 - c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
 - e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies.
 - f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
- Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable lifestyles.

UNIT-3: Ecosystems

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession.
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystem: -
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

UNIT-4: Biodiversity and its Conservation

- Introduction-Definition: genetic, species and ecosystem diversity.
- Biogeographical classification of India.
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, National and local levels.
- India as a mega-diversity nation.
- Hot-spots of biodiversity.
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India.
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT-5: Environmental Pollution: Definition

- Causes, effects and control measures of: -
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies.
- Disaster management: floods, earthquake, cyclone and landslides.

UNIT-6: Social Issues and the Environment

- From Unsustainable to Sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Case studies.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation.
- Consumerism and waste products.

- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and Control of Pollution) Act.
- Wildlife Protection Act. - Forest Conservation Act.
- Issues involved in enforcement of environmental legislation
Public awareness.

UNIT-7: Human Population and the Environment

- Population growth, variation among nations.
- Population explosion-Family welfare Programme.
- Environment and human health.
- Human Rights.
- Value Education.
- HIV/AIDS.
- Women and Child Welfare.
- Role of information Technology in Environment and human health.
- Case Studies.

UNIT-8: Field Work (Practical).

- Visit to a local area to document environmental assets-
river/forest/grassland/ hill/mountain.
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

SIX MONTHS COMPULSORY CORE MODULE COURSE IN ENVIRONMENTAL STUDIES: FOR UNDERGRADUATES

Teaching Methodologies

The Core Module Syllabus for Environmental Studies includes class room teaching and Field Work. The syllabus is divided into eight units. The first seven unit will cover lectures to enhance knowledge skills and attitude to environment. Unit eight is based on field activities which will provide students first hand knowledge on various local environmental aspects. Field experience is one of the most effective learning tools for environmental concerns. This moves out of the scope of the next book mode of teaching into the realm of oral learning in the field, where the teacher merely acts as a catalyst to interpret what the student observes or discovers in his/her own environment. Field studies are as essential as class work and form an irreplaceable synergistic tool in the entire learning process.

Course material provided by UGC for classroom teaching and field activities be utilized.

The Universities/colleges can also draw upon expertise of outside resource persons for teaching purposes.

Environmental Core Module shall be integrated into the teaching programmes of all undergraduate courses.

REFERENCES:

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
 2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad -380013, India, Email: mapin@icenet.net (R).
 3. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p.
 4. Clerk B.S., Marine Pollution, Clanderson Pross Oxford (TB).
 5. Cunningham, W.P.Cooper, T.H. Gorhani, E & Hepworth, M.T.2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p.
 6. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
 7. Down to Earth, Centre for Science and Environment (R).
 8. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute. Oxford University Press. 473p
 9. Hawkins RE, Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R).
 10. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment. Cambridge University Press 1140p.
 11. Jadhav, H. & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p.
 12. Mckinney, M.L. & Schoch, R.M. 1996. Environmental Science Systems & Solutions, Web enhanced edition. 639p.
 13. Mhaskar A. K., Matter Hazardous, Techno-Science Publications (TB).
 14. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB).
 15. Odum, E.P. 1971. Fundamentals of Ecology, W.B. Saunders Co. USA, 574p.
 16. Rao, M.N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd. 345p.
 17. Sharma, B.K., 2001. Environmental Chemistry. Goel Publ. House, Meerut.
 18. Survey of the Environment, The Hindu (M).
 19. Townsend C., Harper J., and Michael Began, Essentials of Ecology, Blackwell Science (TB).
 20. Trivedi R.K., Handbook of Environmental Laws, Rules, Guidelines Compliances and Standards, Vol. I and II, Enviro Media (R).
 21. Trivedi R.K. and P.K.Goel, Introduction to air Pollution, Techno-Science Publications (TB)
 22. Wagner K.D., 1998. Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p.
- (M) Magazine
(R) Reference
(TB) Textbook