

B.COM
SEMESTER I
ENVIRONMENTAL STUDIES – I
50 Marks-38 Lectures

Unit. I . The Multidisciplinary nature of environmental studies, (05 Marks -07 Lectures)
Definition, scope and importance
Need for public awareness.

II. Natural Resources: Renewable and non-renewable resources:
(15 Marks – 10 Lectures)

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.

III. Ecosystems : (15 Marks – 10 Lectures)

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)

- IV. Biodiversity and its conservation : (15 Marks – 11 Lecture)**
Introduction - Definition: genetic, species and ecosystem diversity.
Bio-geographical 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.

Weightage: ISA: 10 + S.E.E: 40 Total= 50.

INSTRUCTIONS

1. Maximum thrust may be given to local regional and national examples.
2. Q. No. 1 being objective it should include questions from all units of the term.
3. Questions should be set with due weightage to all the units as specified

Pedagogic suggestion:

The Current topic of Regional & National interest have to be updated by referring to subject journals - Down to Earth, Current Science, Yojna and Other relevant materials.

Books for Study and Reference:

1. Agarwal, K.C.2001 Environmental Biology, Nidi Pub!. Ltd. Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd. , Ahmedabad - 380013, India, Email: mapin@icenet.net (R)
3. Brunner RC., 1989, Hazardous Waste Incineration, McGraw Hill Inc.480p
4. Clark RS., Marine Pollution, Clanderson Press Oxford (TB)
5. Cunningham, W.P.Cooper, TH.Gorhani, E & Hepworth, M.T2001,Environmental Encyclopedia, Jaico Pub!. 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 Univ. Press. 473p
9. Hawkins R.E, Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
10. Heywood, VH & Watson, R.T. 1995 . Global Biodiversity Assessment. Cambridge Univ. Press 1140p.
11. Jadhav, H & Bhosale, VM. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.
12. Mckinney, M.L. & SchocJ', R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition. 639p.
13. Mhaskar A.K, Matter Hazardous, Techno-Science Publications (TB)
14. Miller TG. 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 Begon, 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

