

Veer Narmad South Gujarat University
Bachelor of Business Administration
Year – I (Semester – I) (W.E.F. June 2019)

Subject Name: Environmental Science

Subject Code: 102

Objective of the course:

- To create awareness about environment
- To develop written communication skills among students
- To develop managerial soft skills among students

Pedagogy

Lectures, Audio-Visual Material, Field Visits, Guest Lectures, Projects, Presentations

Course Content

Unit 1: Multidisciplinary Nature of Environmental Studies (10%)

Definition, scope and importance, Need for public awareness - Institutions in Environment, People in Environment

Unit 2: Natural Resources: Renewable and non-renewable resources: (20%)

Natural resources and associated problems, Non-renewable Resources, Renewable Resources - A) Forest resources B) Water resources, C) Mineral resources, D) Food resources, E) Energy resources F) Land resources, Role of an individual in conservation of natural resources

Unit 3: Ecosystems (25%)

Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem–1.The water cycle, 2.The Carbon cycle, 3.The Oxygen cycle, 4, The Nitrogen cycle, 5.The energy cycle, 6.Integration of cycles in nature, Ecological succession, Food chains

Unit 4: Environmental Pollution (25%)

- Definition, Causes, effects and control measures of - Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards,
- Solid waste Management: Causes, effects and control measures of urban and industrial waste s.
- Role of an individual in prevention of pollution, Pollution case studies.
- Disaster management: floods, earthquake, cyclone and landslides.

Unit 5: Social Issues and the Environment

(20%)

- From Unsustainable to Sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, water shed management,
- Environmental ethics: Issues and possible solutions, 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

Fieldwork (Desirable Pedagogy)

- 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. (Field work for Assignment)

Suggested Readings:

Text Book

- *Textbook of Environmental Studies for Undergraduate Courses by ErachBharucha (UniversitiesPress)*

Reference:

- *D.K.Asthana, MeeraAsthana, EnvironmentalStudies, SChand&Company, New Delhi.*

Further Readings

1. *Agarwal KC, 2001. Environmental Biology, Nidi Publishers Ltd. Bikaner.*
2. *BharuchaErach, 2003. TheBiodiversityofIndia, MapinPublishingPvt.Ltd, Ahmedabad–380013, India. Email:mapin@icenet.net*
3. *Brunner RC, 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480pgs.*
4. *Clark RS, Marine Pollution, Clarendon Press, Oxford(TB).*
5. *CunninghamWP, CooperTH, GorhaniE&HepworthMT, 2001. Environmental Encyclopaedia, Jaico Publishing House, Mumbai, 1196pgs.*
6. *De AK, Environmental Chemistry, Wiley EasternLtd.*
7. *Down to Earth, Center for Science and Environment(R)*

8. Gleick HP, 1993. *Water in Crisis*, Pacific Institute for Studies in Development, Environment and Security. Stockholm Environmental Institute, Oxford University Press, 473 pgs.
9. Hawkins RE, *Encyclopedia of Indian Natural History*, Bombay Natural History Society, Bombay (R)
10. Heywood VH, and Watson RT, 1995. *Global Biodiversity Assessment*. Cambridge University Press 1140 pgs.
11. Jadhav H and Bhosale VM, 1995. *Environmental Protection and Laws*. Himalaya Publishing House, Delhi 284 pgs.
12. McKinney M and Schoch RM, 1996. *Environmental Science Systems and Solutions*. Web enhanced edition, 639 pgs.
13. Mhaskar AK, *Matter Hazardous*, Techno-Science Publications (TB)
14. Miller TG, Jr. *Environmental Science*, Wadsworth Publishing CO. (TB)
15. Odum EP, 1971. *Fundamentals of Ecology*. WB Saunders Co. USA, 574 pgs.
16. Rao MN and Datta AK, 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd. 345 pgs