

Department of Environmental Science

Foundation: Environmental Science

Semester II (BVA) Semester III(BA,B.Com,B.Sc.,BCA,B.Sc (H.Sc.)

S. No.	Paper Code	Paper Title	Type of Paper (Theory,Practical Project,Seminar)	Contact Hours		Credits	Max. Marks	Min. Marks
				Per Sem	Per week			
1	VES 200 FES 300	Our Environment	Theory	30	02	02	100	36

Semester IV (BA,B.Com,B.Sc.,BCA,B.Sc (H.Sc.)

S. No.	Paper Code	Paper Title	Type of Paper (Theory,Practical Project,Seminar)	Contact Hours		Credits	Max. Marks	Min. Marks
				Per Sem	Per week			
1	FES 400	Environmental Conservation	Theory	30	02	02	100	36

COURSE CONTENT

SEMESTER II/ III

VES 200/FES 300: OUR ENVIRONMENT

Contact Hours/Semester: 30

Contact Hours/Week: 2

Maximum marks: 100 (Semester End Exam-70 Continuous assessment-30)

Credits: 2

Objective of the paper: In spite of the deteriorating status of the environment, study of environment has so far not received adequate attention in our academic programmes. This programme aims at giving students a clear understanding of environmental concerns and to follow sustainable development practices. This will definitely help students develop an interdisciplinary global understanding of ecological and environmental problems.

UNIT-I Definition, Scope and Importance of Environment 5 hrs

- Scope of Environmental Studies and its applications
- Importance with respect to the society
- Relationship of Environmental Studies with other subjects (Multidisciplinary nature of Environment)

UNIT-II Ecosystem: Structure and Function 6 hrs

- Concept of Ecosystem
- Biotic and abiotic components of ecosystem
- Food Chain and Food Web
- Ecological Pyramids
- Energy Flow

UNIT-III Environmental Pollution 7 hrs

- Water Pollution: Definition, sources and effects
- Air Pollution-Definition, sources and effects
- Noise Pollution-Definition, sources and effects

UNIT-IV Energy and Environment 7 hrs

- Solar Energy and its uses
- Wind Energy
- Tidal Energy
- Hydro Power

UNIT-V Environment and Human Health 5 hrs

- Water and airborne Diseases; Potential and widespread effects.
- WHO and other bodies and their role in public health projects development.

SEMESTER IV

FES 400: ENVIRONMENTAL CONSERVATION

Contact Hours/Semester: 30

Contact Hours/Week: 2

Maximum marks: 100 (Semester End Exam-70 Continuous assessment-30)

Credits: 2

Objective of the paper: The course aims to provide students with knowledge about natural and disrupted systems in the natural world, and to stimulate them to develop their ability to apply their knowledge and adopt a standpoint on environmental issues.

UNIT-I Biodiversity and its conservation 6 hrs

- Introduction: Definition, genetic, species and ecosystem diversity.
- Values of Biodiversity: Consumptive use, productive use, social esthetic and option values
- Threats to biodiversity- Habitat loss, poaching of wild life.

UNIT-II Natural Resources 6 hrs

- Definition (Renewable and non renewable)
- Natural resources and associated problems:
 - (a) Forest Resources- Use and over-exploitation, deforestation and its effects
 - (b) Water Resources- Use and over-utilization of surface and ground water and its effects
 - (c) Land Resources- Land degradation; Soil erosion and desertification.
 - (d) Mineral resources : Use and exploitation, environmental effects of extracting mineral resources

UNIT-III Global Environmental Issues 6 hrs

- Acid Rain
- Ozone Depletion
- Global Warming

UNIT-IV Environmental Education and Awareness 6 hrs

- Environmental Movements
- Need of Awareness
- From Unsustainable to Sustainable development
- Water conservation

UNIT-V Human Population and Environment 6 hrs

- Population growth and its impact on Environment and natural resources
- Population Explosion and family welfare programmes

BOOKS RECOMMENDED

Essential Readings

- Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad –380 013, India, Email:mapin@icenet.net
- Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
- Jha Latika and Shailendra, Environmental Studies ,CBH publications, Jaipur
- Singh, R.B., Thakur, D.K. and Chauhan, J.P.S., RBD publications, Jaipur
- Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science
- Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA.

Reference Books

- Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
- Clark R.S., Marine Pollution, Clanderson Press Oxford
- Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai
- De A.K. Environmental, Chemistry, Wiley Eastern Ltd.
- Gleick, H.P. 1993. Water in Crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford Univ. Press.
- Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press
- Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi
- Mckinney, M.L. & School, R.M. 1996. Environmental Science Systems & Solutions, Web enhanced edition.
- Mhaskar A.K., Matter Hazardous, Techno-Science Publication
- Miller T.G. Jr Environmental Science , Wadsworth Publishing Co.
- Rao M N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd.
- Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut
- Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media
- Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno- Science Publication
- Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA