Paper-V
ENVIRONMENTAL STUDIES

CORE MODULE SYLLABUS FOR ENVIRONMENTAL STUDIES

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, dam's benefits and problems.
c) Mineral resources: Use and exploitation, environmental effects extracting and using mineral resources, case studies.
d) Food resources: World food problems, changes caused by agriculture and organizing effects of modern agriculture, Fertilizer- pesticides problems, water logging case studies.
e) Energy Resources: Growing energy needs
f) Land resources: Land as a resource, land degradation. Man induced landslides, soil erosion and desertification.

- Role of an individual in conversation of natural resources.
- Equitable use of resources for sustainable lifestyles.

Unit 3: Ecosystem

- 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 characteristics features, structure and function of the following ecosystem:-

a) Forest ecosystem
b) Grassland ecosystem
c) Desert ecosystem

d) Aquatic ecosystems,(ponds, stream , oceans, estuaries)

Unit 4:- Biodiversity and its conservation

- Introduction- Definition: genetic, species and ecosystem diversity
- Biogeographically 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.

(8 lectures)

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: Flood, 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 reclamation
- Consumerism and waste products
- Environment Protection Act.
- Air (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

- Visit to a local area to document environmental assets 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 Equal to 5 lecture hours)

SIX MONTHS COMPULSORY CORE MODULE COURSE IN ENVIRONMENTAL STUDIES:

Teaching Methodologies

The core Module Syllabus for Environmental Studies includes class room teaching and field work. The syllabus is divided into eight units covering lectures. The first seven units will cover 45 lectures which are class room based to enhance knowledge skills and attitude to environment. Unit eight is based on field activities which will be covered in five lecture

hours and would provide students firsthand 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 text book mode of teaching into the realm of real 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 class room teaching and field activities is utilized.

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

Environmental core module shall be integrated into teaching programmes of all undergraduate courses.

Annual System: The duration of the course will be 50 lectures. The exam will be conducted along with the Annual Examination.

Semester System: The Environmental course of 50 lectures will be conducted in second semester and the examinations shall be conducted at the end of the second semester.

Credit System: The core course will be awarded 4 credits

Exam Pattern: In case of awarding the marks, the question paper should carry 200 marks. The structure of the question paper being

Part-A Short answer pattern	25 marks
Part-B Essay type with inbuilt choice	50 marks
Part-C Field Work	25 marks

Paper-II

Professional Management and Ethics

Instruction Hrs.
Theory-100

A. Professional Ethics and legal issues
   1. The implications of and conformation to the rules of professional conduct.
   2. Legal responsibility for their actions in the professional context. Understanding liability and obligation in case of medico- legal action.
   3. A wider knowledge of ethics relating to current social and medical policy on the provision of health care.
   4. National and International professional bodies as a professional association and education body- Difference between scientific association (Professional body) and statutory body.
   5. The role of International health agencies such as WHO.

B. Management studies
   1. Definition- Branches of Management. Principles of health Sector management.
   2. General principles of Management- Theories of Management, Basic concepts and theories.
   3. Personal Managements- Policies and procedures: basic concepts and theories.
   4. Financial issues including budget and income generation.
   5. Principles of an Organization chart.
   6. Organization of a department- planning, space, manpower, materials basic requirements.
   7. Resource and quality Management- Planning with change and coping with change
   8. Self Management
      I. Preparing for first job
      II. Time Management
      III. Career development

B 3.5 COMMUNITY ORIENTED PROFESSIONAL PRACTICES IN SPEECH, LANGUAGE AND HEARING

(80+20 marks) **(Total = 75 hrs)**

Objectives:

After studying this paper at the end of the year, the student should be able to understand the following –

- Epidemiology of speech, language and hearing disorders
- Service delivery and CBR issues
- Legislative support for rehabilitation
- Documentation and ethical issues

Unit 1 **(15 hrs)**

1. Epidemiology of speech, language and hearing disorders
2. Environmental, Social, Economic implications and preventive education
3. Levels of prevention: Primary, Secondary, Tertiary
4. Survey, prevalence, Incidence and its implication in planning
5. Health promotion, specific protection, early diagnosis and treatment of a high risk infant, Disability limitation, Educational and Vocational rehabilitation

Unit 2 **(15 hrs)**

1. Approaches to service delivery: Institution based, Camp based, Community based and Role of NGOs
2. Review of services in India
3. Integration of Disabled into the community and ICF 2001

Unit 3 **(15 hrs)**

1. Duties and responsibilities of SLP in various settings
2. Professional ethics for SLPs, Code of Ethics, Right to Education Act, Industrial Employment Act
3. Interacting with allied professional and community health workers

Unit 4 **(15 hrs)**

1. Planning services for the communication disordered population: Philosophy, planning, establishment of services for communication disorders- infrastructure, budget, staffing, equipment, furniture, policy making, record keeping, proposal writing.
2. Strategies for awareness, public education and information (Camps, Print and audiovisual media, Surveys. Radio broadcasts, street plays).
3. Empowering parents, persons with disabilities and the community; Skill transfer to DHLS, parents; grass-root level workers, teachers and health workers

Unit 5 **(15 hrs)**

1. Legislative support for rehabilitation- Rehabilitation Council of India Act (1992), Persons With Disability Act (1995), National Trust Act for the Welfare of Autism, CP, MR and Multiple Disabilities (1999), Environmental Act, Consumer Protection Act, Right To Information Act, UNCRPD Act.
2. The professional as a witness; documentation; handling legal issues

LIST OF BOOKS

Compulsory Reading:

- Baquer, A. & Sharma, A. (1997). Disability: Challenges Vs Responses. CAN publications.
- Kundu, C.L., Status of Disability in India, (2000 & 2003) Ed. Kundu, C.L., RCI
- Narsimhan, M.C. & Mukherjee, A.K. (1986). Disability a Continued Challenge: Delhi willey eastern.
- WHO (2001). International classification of Functioning, Disability and Health. Geneva: WHO
- Professional Issues in Speech-Language Pathology and Audiology - A Text book. (1994). Lubinski R. and Frattali C. California: Singular Publishing Group

Additional/Optional Reading:

- Administration and Management of Programs for Young Children. (1995) Shoemaker, C. J. New Jersey : Prentice Hall Inc.
- Management of Child Development Centres. (1993) Hildebrand, V. (3rd Ed.). MacMillan Publishing Company.

B 3.1.1 ENVIRONMENTAL STUDIES

(80+20 marks) **(Total = 75 hrs)**

Unit 1: 6 hrs

The multidisciplinary nature of environmental studies
Definition, scope and importance

Unit 2: 10 hrs

Natural Resources
Renewable and non-renewable resources
Natural resources and associated problems

Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams' benefits and problems.

Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture , fertilizer-pesticide problems, water logging, salinity, case studies

Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies.

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: **9** hrs

Eco Systems
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:

Forest ecosystem
Grassland ecosystem
Desert ecosystem
Aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 4: 10 hrs

Biodiversity and its conservation
Introduction – Definition, genetic, species and ecosystem diversity
Biogeographical classification of India
Value of biodiversity: consumptive use, productive use, social, ethical, esthetic 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: 8 hrs

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, earthquakes, cyclone and landslides

Unit 6: 9 hrs

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
Environment ethics, issues and possible solutions
Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies
Wasteland reclamation
Environment Protection Act
Air (Prevention and Control of Pollution) Act.
Water (Prevention and control of pollution) Act
Wild life protection Act
Forest conservation Act
Issues involved in enforcement of environment legislation

Public awareness

Unit 7: 7hrs

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: 16 hrs

Field Work
Visit to local area to document environmental assets- river/forest/grassland/ hill/mountain
Visit to local polluted site urban/rural/industrial/agricultural
Study of common plants, insects, birds
Study of simple ecosystems pond, river, hill slopes etc. (field work equal to 5 lecture hours)
Each student has to submit a field report on any one of above topics which forms the basis for evaluation of field work for – 25 marks

LIST OF BOOKS

Agarwal.K.C 2001 Environmental Biology. Nidi Publ.Ltd.Bikaner

Bharucha Erach. The Biodiversity of India, Mapin Publishing Pvt. Ltd, Ahmedabad – 380 013, India email: mapin@iccnel.net (R)

Brunner R.C 1989, Hazardous Waste

Cark R.S Marine Pollution, Clanderson Press Oxford (TB)

Cunningham, W.P. Cooper, T H Gorhani, E & Hepworth, M.T 2001 Environmental Encyclopedia, Jaico Publ. House, Mumbai 1196 p

De A.K. Environmental Chemistry, Wiley Eastern Ltd

Down to Earth, Centre for Science and Environment (R)

Gleiek H.P 1993. Water in crisis. Pacific Institute for Studies in Dev., Environment & Security, Stockholm Env. Institute. Oxford Univ. Press 473 p

Hawkins R.E, Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)

Heywood, V.H & Watson. R.T 1995. Global Biodiversity Assessment, Cambridge Univ. Press 1140p

Jadhav H & Bhosale V.M. 1995, Environmental Protection and laws, Himalaya Pub. House, Delhi 284 p

Mekinney M.L. & Schocl, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition 639p

Mhaskar A.K, Matter Hazardous, Techno-Science Publication (TB)

Miller T.G Jr. Environmental Science, Wadsworth Publishing Co. (TB)

Odum, E.P 1971. Fundamentals of Ecology, W.B. Saunders Co. USA,574p

Rao M.N & Datta A.K. 1987. Waste Water Treatment. Oxford & IBH Publ. Co. Pvt. Ltd 345p

Sharma B.K 2001. Environmental Chemistry. Goel Publ. House, Meerut

Survey of the Environment. The Hindu (M)

*_*_*_*_*