

ENVIRONMENTAL STUDIES (AECC-II, Credits:2)

Full Marks :100

Pass Marks: 40

Time : 3Hrs

B.A. /B.Sc. Semester – II (CBCS)

There shall be nine questions in total. Question number 1 is compulsory and will span over the entire subject of this paper in the form of multiple choice/ true and false, fill in the blanks with options etc. and will carry 20 marks.

From the rest eight questions (4 from each group carrying 20 marks each) examinees will be required to answer 4, selecting not more than 2 question from any group.

Total Classes : 33 of 1hr. duration

Group-A (Total Classes: 17)

UNIT- 1: Multi-disciplinary nature of environmental studies: (2 Classes)

- Definition & scope.
- Level of organization.
- Environment, Weather and climate,.
- Human interference with environment.
- Need for environmental studies and public awareness.

UNIT-2: Brief Concept of Natural resources: Renewable and non-renewable resources . (5 Classes)

- **Forest resources** : Use and over exploitation, deforestation. Timber extraction, mining, dams, and their effects on **forest & tribal people**.
- **Water resources**: Use and over utilization of surface and ground water, Floods, draught, 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 over grazing, Effects of modern agriculture, fertilizer, pesticide problems, water logging, Salinity, Case studies.
- **Energy resources**: growing energy needs, renewable and non-renewable energy resources, use of alternate energy sources.
- **(f) Land resources**: Land as resource, land degradation, Soil erosion , Stalinization, desertification.

UNIT- 3: Brief Concept of Ecosystem: (5 Classes)

- Concepts of ecosystem.
- Structure and function of ecosystem.
- Producer, consumer and decomposers.
- Food chain, food web and ecological pyramids.
- Energy flow in ecosystem.
- Ecological succession,
- Structure and function of Pond, Grass land, Forest & Desert Ecosystem(Elementary idea).

UNIT-4: Biodiversity and its Conservation: (5 Classes)

- Introduction, Definition and levels of biodiversity : Genetic, Species, Community & Ecosystem diversity.
- India as Mega diversity Nation. Biogeographical classification of India. Biodiversity hot spots.
- Uses of biodiversity.
- Threats to biodiversity: the causative factors. Various category of ICUN Red List Species.
- Conservation and management of biodiversity: In- situ conservation, and Ex- situ conservation.

Group- B (Total Classes: 16)

UNIT- 5: Environment pollution: (5 Classes)

Definition, causes, effects and control measures of

- Water pollution.
- Air pollution.
- Noise pollution.
- Radiation pollution
- Soil Pollution & Solid waste management: causes, effects and control measures of *Urban and Industrial wastes*

UNIT- 6: Social issues & Environment : (6 Classes)

- Sustainable development to create a balance between development and environmental protection.
- **Urban problem related to energy.**
- Water conservation: rain water harvesting, water shade management.
- Resettlement & rehabilitation of people , their problems & concern.
- Global warming and Climate change, Acid rains, Ozone layer depletion,, Nuclear accidents and holocaust.
- Waste land reclamation.
- Environmental movements like Chipko, Tehri dam, Narmada dam, Salient Valley. Role of tribal people, women and NGOs in environmental protection.
- Brief idea of Environmental Acts: Environment protection act ,1986, The Air (prevention and control of pollution) Act,1981, The Water (prevention and control of pollution) Act,1974, Wildlife Protection Act,1972 (Amended, 1991), National Forest Policy 1988.

UNIT-7: Human population and environment: (5 Classes)

- Human population growth, Growth rate, Population explosion.
- Environment and human health, Human right, Family welfare programme Human rights.
- Role of information technology in environment and human health..

Note: This curriculum of AECC-2 covered in 33 lectures will be conducted in Semester- II & the Examination shall be conducted at the end of second semester.

Suggested Books :

- Textbook of Environmental studies by **Erach Bharucha** University Press (Orient Black Swan)
(AVAILABLE IN BOTH HINDI AND ENGLISH VERSION)
- Comprehensive Environmental Studies by **Dr. J.P. Sharma.** Laxmi Publication (P) Ltd New Delhi.
- Ecology and Environment By **P. D. Sharma** 11th Ed. Rastogi Publication
- Fundamentals of Environmental Biology By **B. Mukherjee** Silverline Publication