



## ENVIRONMENTAL STUDIES

**Compulsory In I year for all streams at undergraduate level**

**Scheme of Examination:**

**Theory      Time 3hrs.                      Mi.: 36      Max: 100**

Theory paper will contain nine questions. The students are required to attempt five question in all including question no. 1 which will be compulsory.

Q1 Short answer type. Ten question of two marks each(compulsory) (10\*2=20)

Q2 to Q9 essay type question of 20 marks each(attempt any four)

The students are required to visit some field or sites mentioned in the syllabus under the guidance of a teacher. The teacher shall certify that the student have visited the site and should further inform their respective principal in writing regarding the same.

**Note:**

1. The marks secured in this paper shall not be counted in awarded the division to a candidate.
2. The candidate have to clear compulsory paper in three chances.
3. Non appearing or absent in the examination of compulsory paper will be counted a chance.

### **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 groundwater, 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 nonrenewable energy sources, use of alternate energy sources, case studies.**
  - f) **Land resources: Land as a resource, Land degradation, man induced Land-slides, soil erosion and desertification.**

**Star Infotech College**

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

### UNIT 3: ECOSYSTEMS

- 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)

### UNIT 4: BIODIVERSITY AND ITS CONSERVATION

- Introduction – Definition: genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of biodiversity: consumptive 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 conservation of biodiversity.

### 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 pollution		
- 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, earthquake, cyclone and land slides.

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## **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 and waste products.
- Environmental 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 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- river/forest/grasslands/hill/mountain
- Visit to local polluted site-Urban/rural/Industrial/Agricultural
- Study of common plants, insect, birds.
- Study of simple ecosystems-pond, river, hill slope etc.