

**SYLLABUS**

**SCHEME OF EXAMINATION AND**

**COURSES OF STUDY**

**ENVIRONMENTAL STUDIES**

**(2023-24)**



**Maharaja Ganga Singh University**

**Bikaner**

## ENVIRONMENTAL STUDIES

Theory : Max. Marks: 100 Min. Passing Marks: 36

Note. 1. The marks secured in this paper shall not be counted in awarding the division to a candidate.

2. The candidate have to clear compulsory paper in three years.

3. Non appearing or absent in the examination of compulsory paper will be counted a chance.

**The syllables and scheme of examination is as under:**

Compulsory in 1st year for all streams at undergraduate level

### SCHEME OF EXAMINATION

1. The paper will be of 100 marks.

2. There will be no practical/Field work, instead student should be aware of ecology of local area; the question related to field work of local area can be asked by paper setter.

3. There will be 100 questions in the paper of multiple choice, each question of 1 mark.

4. There will be no negative marking in the assessment.

Core Module syllabus for Environmental Studies for Under Graduate Courses of All Branches of Higher Education

**Unit-1 : The multidisciplinary nature of environmental studies.**

- Definition scope and awareness.
- Need for public awareness.

**Unit-2 : Natural Resources :**

- Renewable and non-renewable resources
- Natural resources and associated problems.
- Forest resources.
- Use and over exploitation.
- Deforestation.

- Timber exploitation.
- 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.
- Food resources.
  - World food problems.
  - Changes caused by agriculture and overgrazing.
  - Effects of modern agriculture.
  - Fertilizer, pesticide problems.
  - Water logging.
  - Salinity

### **Energy resources :**

- Growing energy needs.
- Renewable and non-renewable energy resources.
- Use of alternate energy resources.

### **Land resources :**

- Land as a resource.
- Land degradation.
- Man induced land slides.
  - Soil erosion & desertification.

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

### **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, characteristic features, structure and function of the following ecosystems.
- Forest ecosystem.
- Grassland ecosystem
- Desert ecosystem.
- Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

#### **Unit-4 : Biodiversity and its conservation:**

- Introduction, definition and diversity at genetic, species and ecosystem level. - Biogeographically classification of India.
- Value of biodiversity, consumptive use productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, national & local levels.
- India as a mega-diversity nation.
- Hot-spots of biodiversity.
- Threats to biodiversity - habitat loss, poaching of wild life, man-wild life conflicts.
- Endangered and endemic species of India.
- Conservation of biodiversity – In situ and Ex-situ conservation of biodiversity.

#### **Unit-5 : Environmental Pollution :**

- Definition, causes, effect 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 industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster management : Flood, earthquake, cyclone and land slides.

## **Unit-6 : Social issues and the environment :**

- From unsustainable to sustainable development
- Urban problems related to energy.
- Water conservation, rain water harvesting, water shed management.
- Settlement and rehabilitation of people, its problem of concerns.
- Environmental ethics-issues and possible solutions. Ozone layer depletion, nuclear accidents.
- Wasteland reclamation.
- Consumerism and waste products.
- Environmental protection Act.
  - i. Air (prevention and control of pollution) Act
  - ii. Wild life protection Act
  - iii. 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 & child welfare.
- Role of information technology in environment and human health.

### **Field Work**

- Visit to a 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 ecosystem-Pond, river, hill slope etc

## **Suggested Books :**

- 1 पर्यावरण अध्ययन – वर्मा, गैना, खण्डेलवाल, रावत
- 2 पर्यावरण विज्ञान – पी.सी. त्रिवेदी, गरिमा गुप्ता
- 3 पर्यावरण अध्ययन – सुरेश आमेता, शिप्रा भारद्वाज
- 4 Environmental Studies – Pratap Singh, N.S. Rathore, A.N. Mathur
- 5 पर्यावरण अध्ययन – बाकरे, बाकरे वाधवा
- 6 पर्यावरण अध्ययन – मनोज यादव, अनूपमा यादव