

Roll No. ....12176

**UNDERGRADUATE PROGRAMMES**

**FIRST SEMESTER END TERM EXAMINATION:  
NOVEMBER - 2012**

**ENVIRONMENTAL STUDIES**

*Time : 3 Hrs.*

*Maximum Marks : 70*

*Note: Attempt questions from all sections as directed.*

**SECTION - A (30 Marks)**

*Attempt any 5 questions.*

*Each question carries 6 marks.*

1. Discuss the Scope of Environmental Studies?
2. Discuss the consumptive and non consumptive use of forest resources.
3. Define ecological succession using the example of Hydrosere?
4. Discuss various methods of Insitu biodiversity conservation with examples?
5. Discuss thermal pollution, its effects and its control measures.
6. Discuss the flow of energy in Ecosystems with special reference to ten percent rule.

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SECTION - B (20 Marks)

Attempt any two questions.

Each question carries 10 marks.

7. Define the following terms : (1×10=10)

- (a) Ecomarks
- (b) Detritus
- (c) Genetic Biodiversity
- (d) Food chain
- (e) Oil Spills
- (f) Sustainable development
- (g) Photovoltaic cells
- (h) Biomagnification
- (i) Autogenic Succession
- (j) HIV/AIDS

8. Write short note on the following : (4×2.5=10)

- (a) Aquifers and its types
- (b) Hotspot of Biodiversity
- (c) OTEC (Ocean thermal energy conversion)
- (d) Acid rain

9. Write notes on any two of the following : (2×5=10)

- (a) Dams : benefits and problems
- (b) Eutrophication
- (c) Ecological pyramids

SECTION – C (20 Marks)  
*(Compulsory – Case Study)*

10. Read following case study and answer the questions given at the end of the case study.

**Chernobyl disaster – A case study**

On 26 April 1986, at 01:23 reactor four suffered a catastrophic power increase, leading to explosions in its core. This dispersed large quantities of radioactive fuel and core materials into the atmosphere and ignited the combustible graphite moderator. The burning graphite moderator increased the emission of radioactive particles, carried by the smoke, as the reactor had not been encased by any kind of hard containment vessel. The resulting fire sent a plume of radioactive smoke into the atmosphere and spread over an extensive geographical area, including city of Pripyat. The plume drifted over large parts of the western Soviet Union and Europe. From 1986 to 2000, 350,400 people were evacuated and resettled from the most severely contaminated areas of Belarus, Russia, and Ukraine.

The disaster had severe effect on human health such as acute radiation sickness, Cancer, Down syndrome, Chromosomal aberrations and Neural tube defects. The disaster also causes the increased concentration of residual radionuclide in surface and groundwater.

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It also affected the flora and fauna in the large vicinity of accidental sites and adjoining areas.

The United Nations Development Programme has launched in 2003 a specific project called the Chernobyl Recovery and Development Programme (CRDP) for the recovery of the affected areas. The programme was initiated in February 2002 based on the recommendations in the report on Human Consequences of the Chernobyl Nuclear Accident. The main goal of the CRDP's activities is supporting the Government of Ukraine in mitigating long-term social, economic, and ecological consequences of the Chernobyl catastrophe.

Attempt following questions :

- (a) Discuss various effects of nuclear radiations on human health and environment? (6)
- (b) Discuss another Nuclear catastrophe that world has witnessed in 1945? (4)
- (c) Define Nuclear Holocaust? (3)
- (d) Discuss the principle of energy generation in nuclear power plants? (3)
- (e) Discuss various methods for safe disposal of radioactive waste? (4)