

Printed Pages : 4

CA-105

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 1154**

Roll No.

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**M. C. A.**

**(Semester-I) Theory Examination, 2012-13**

**ENERGY, ENVIRONMENT AND ECOLOGY**

*Time : 3 Hours]*

*[Total Marks : 100*

*Note : Attempt questions from all Sections as per instructions.*

**Section-A**

Attempt *all* parts of this question.  $2 \times 10 = 20$

1. (a) Mention the scope and importance of Environmental studies.
- (b) What are biochemical cycles ? Explain their importance.
- (c) What are the advantages and disadvantages of in-situ and ex-situ conservation of biodiversity ?
- (d) State any two problems caused by the construction of dams.
- (e) Why alternate energy resources are required ?

- (f) Write a note on Geothermal Energy.
- (g) What are the roles of a citizen in reducing pollution?
- (h) What are the effects of Ozone layer depletion?
- (i) Write the salient features of Forest Conservation Act, 1980.
- (j) State how environment and human health are related.

### Section-B

2. Attempt any *three* parts of this question.  $10 \times 3 = 30$

- (a) Explain the characteristic features and functions of the following ecosystems along with flow diagram:
  - (i) Forest Ecosystem
  - (ii) Aquatic Ecosystem.
- (b) How will you achieve sustainable life style by equitable share of resources?
- (c) Elaborate the various methods of harvesting solar energy.
- (d) What are the effects of improper municipal solid waste management? State the measures recommended for proper management of solid waste.
- (e) Illustrate the role of NGOs in environmental management.

(2)

**Section-C**

Attempt *all* questions of this Section.  $10 \times 5 = 50$

3. Attempt any two parts :  $5 \times 2 = 10$

- (a) Construct two models of energy flow in an ecosystem.
- (b) Explain sulphur and phosphorous cycle.
- (c) Differentiate between food chain and food web.  
Give the significance of ecological pyramids.

4. Attempt any one part :  $10 \times 1 = 10$

- (a) Explain in detail the various effects of modern agricultural practices.
- (b) What are the threats faced by biodiversity and give the solutions for the threats.

5. Attempt any one part :  $10 \times 1 = 10$

- (a) What are the uses and over exploitation of water? Explain with case study.
- (b) (i) Compare nuclear power with coal. 4  
(ii) Explain ocean thermal energy. 6

6. Attempt any one part :  $10 \times 1 = 10$

- (a) State and explain the current environmental issues with examples.
- (b) What are the sources of radioactive pollution ?  
Explain the effects of nuclear and radiation pollution.

(3)

7. Attempt any two parts :  $5 \times 2 = 10$

- (a) Enumerate the various methods of assessing the impacts on environment. Explain, how ?
- (b) Explain Wildlife Protection Act.
- (c) Discuss about environment ethics.