

(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. 2×10=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. 10×3=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.

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.

7. Attempt any two parts : 5×2=10
- (a) Enumerate the various methods of assessing the impacts on environment. Explain, how ?
 - (b) Explain Wildlife Protection Act.
 - (c) Discuss about environment ethics.