

This question paper contains 4 printed pages]

CODE : FRO-2017

ENVIRONMENTAL SCIENCES

Roll No.

Time : 3 Hours

Maximum Marks : 200

- Note* :— (i) Question paper consists of two parts viz. Part I and Part II. Each part contains four questions. The paper as a whole carries eight questions. Question Nos. 1 and 5 are compulsory. The candidates are required to attempt *three* more questions out of the remaining six questions taking at least *one* question from each part i.e. this is in addition to the compulsory question of each part. Attempt *five* questions in all. All questions carry equal marks. The parts of a question are to be attempted at one place in continuation. Answer should be brief and to the point.
- (ii) Parts of same question must be attempted together and not to be attempted in between the answers to other questions.

P.T.O.

Part I

1. (a) What is mass extinction and give five major events of mass extinction.
(b) Explain the paleontological evidences of evolution of life.
(c) Write a note on energy transfer in ecosystem with an example. 10+15+15
2. (a) What makes earth suitable for life ? Give details of biodiversity hotspots in world and India.
(b) Give mechanisms of adaptation of plants to water stress conditions.
(c) Write a note on biomes with specific examples of species present in each biome. 15+15+10
3. (a) Explain the forest types and their distribution in world and in India with examples.
(b) What are the factors responsible for differential distribution of species on earth ? 20+20
4. (a) Write about the renewable and non-renewable sources of energy and their use pattern in world and in India from past to present.

- (b) Write about water sources in India and describe measures to enhance water use efficiency at various levels from a farm level to national level. 20+20

Part II

5. Write short notes on the following :

- (a) What are the characteristics of heavy metals and give sources of heavy metal pollution for each of them.
- (b) Give environmental issues related to pesticide use with specific examples and suggest remedial measures.
- (c) Write a short note on reversible and irreversible reactions in water with suitable examples.

15+15+10

6. What are biogeochemical cycles ? Describe carbon and nitrogen cycles. Explain how the anthropogenic activities contributed to global climate change. List the impacts of climate change on natural resources. 5+15+10+10

P.T.O.

7. (a) What is hazardous substance ? Write the effects of persistent organic pollutants on human health.
- (b) Write about the formation and depletion stratosphere and troposphere ozone and list major effects of tropospheric ozone on plants.
- (c) Write about physical structure of earth and describe how it changed since earth formation.

15+15+10

8. (a) Write about the physico-chemical characteristics of major soil types.
- (b) Write about different types of rocks and their formation mechanism.
- (c) Write about isostructuralism and isotypism as well as polymorphism and polytypism in minerals with suitable examples.

10+15+15