TDC Odd Semester Exam., 2018

FOUNDATION COURSE

(5th Semester)

Course No. : FCES-501

(Environmental Studies)

Full Marks : 50
Pass Marks : 17

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. *(a)* Choose the correct options from the following : 1×3=3

(i) The planet Earth was formed around 3000 / 4600 / 5200 million years ago.

(ii) Abiotic components of the environment that are non-biological in origin are commonly referred to as organic / inorganic / non-living components.

(iii) Climax of mammalian evolution occurred in the earth during Quaternary / Tertiary period of Cenozoic era.

(b) Define environment. Give examples of natural environment and man-made environment. 1+2=3

(c) Differentiate between population and community. Give a brief note on adaptation of living organisms. 2+2=4

2. (a) Choose the correct options from the following : 1×3=3

(i) Initial proportion of carbon dioxide in the earth's atmosphere was 2·0 / 0·78 / 0·032 percent.

(ii) Expansion and dominance of dinosaurs occurred in the earth during Cretaceous / Jurassic / Devonian period of Mesozoic era.

(iii) First living organisms on the earth were aerobes / anaerobes / autotrophs.

(b) What are fossils? "A species is a natural biological unit, a reproductive unit and a genetic unit." Explain the statement. 1+2=3

(c) Discuss briefly the negative interactions among the organisms in the biosphere. 4

UNIT—II

3. (a) Choose the correct options from the following : 1×3=3

(i) Organisms that subsist on dead, decomposed materials are called Autotrophs / Osmotrophs / Saprobes.

(ii) Synecology deals with the communities / population / productivity.

(iii) Tropical rain forest occupies only 15 / 18 / 7 percent of the earth's surface.

(b) Differentiate between gross primary productivity and net primary productivity. What is meant by secondary productivity? 2+1=3

(c) Give a brief account on ecological pyramids. 4

4. *(a)* Choose the correct options from the following : 1×3=3

(i) The interlocking pattern of food chain is referred to as food web / trophic level / nutrient cycling.

(ii) In an ecosystem, macro-consumers are also known as phagotrophs / osmotrophs / decomposers.

(iii) Reindeer is the characteristic animal of Savanna / Taiga / Tundra biome.

(b) What is meant by estuarine ecosystem? Discuss briefly. 3

(c) Give a brief account on the concept of ecological succession. 4

UNIT—III

5. *(a)* Choose the correct options from the following : 1×3=3

(i) The concept of 'biosphere' be changed to 'noosphere' was suggested by Vernadsky / Suess / Tansely.

(ii) India occupies 10% / 12% / 2% of the world's land surface.

(iii) The population of India in 1901 was 252·1 / 279·0 / 238·4 millions.

(b) Classify natural resources with suitable examples. 3

(c) What is meant by carrying capacity of the environment? What are the adverse effects of population explosion and over-exploitation of resources on the carrying capacity? 2+2=4

6. (a) Choose the correct options from the following : 1×3=3

(i) The nomadic and unstable human societies of early period of civilization were referred to as PAS / AHS / HAG society.

(ii) Industrial Revolution took place in 17th / 18th / 19th century.

(iii) Wind power is a renewable / non-renewable / inexhaustible resource.

(b) Differentiate between renewable and non-renewable resources. Name one forest resource based industry. 2+1=3

(c) Discuss explosion of human population and its impact on the resources of our environment. 4

UNIT—IV

7. *(a)* Choose the correct options from the following : 1×3=3

(i) The atmosphere contains over 5×10^{15} / 7×10^{12} / 9×10^{9} metric tons of air.

(ii) DDT is a biodegradable / non-biodegradable / secondary pollutant.

(iii) Heavy metal chromium is generated by cement / textiles / leather industry.

(b) Define pollution. Differentiate between biodegradable and non-biodegradable pollutants with suitable examples. 1+2=3

(c) Discuss briefly the impacts of noise pollution and its control measures. 4

8. *(a)* Choose the correct options from the following : 1×3=3

(i) Freshwater comprises only 3 / 4 / 5 percent of the earth's water supply.

(ii) Radioisotopes have different number of electrons / neutrons / protons.

(iii) Chlor-alkali industry generates mercury / lead / cadmium.

(b) What are the principal sources of freshwater pollution? Give the full form of PAN. 2+1=3

(c) Name three major types of ionizing radiations of ecological concern. Discuss natural sources of radiation exposures to the environment. 1+3=4

UNIT—V

9. (a) Choose the correct options from the following : 1×3=3

(i) Itai-Itai disease was caused due to high levels of cadmium / arsenic / lead.

(ii) Rodenticides are used for killing snakes / molluscs / rats.

(iii) The origin of Barak river is in Nagaland / Manipur / Mizoram.

(b) What is meant by acid rain? Discuss the phenomenon briefly. 3

(c) Give a short account of 'bird mystery' and killing of birds at Jatinga. 4

10. (a) Choose the correct options from the following : 1×3=3

(i) The pH value below 7 are progressively alkaline / acidic / neutral.

(ii) Crocodiles are hunted for their meat / teeth / skin.

(iii) Minimum density of population in an urban area should be 400 / 500 / 600 persons per sq. km. area.

(b) What is meant by desertification? Name three types of deserts with suitable examples. 1+2=3

(c) Discuss briefly the impact of urbanization on the social environment. 4

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