TDC (CBCS) Odd Semester Exam., 2018

ECOLOGY AND ENVIRONMENTAL SCIENCE

(1st Semester)

Course No. : EESHCC-101T

(Earth and Earth Surface Processes)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Write short notes on any *two* of the following : 2×2=4

(a) Holocene

(b) Atmosphere

(c) Earth crust

2. Answer any *one* of the following questions : 6

(a) Give an account of 'Geological Time Scale'.

(b) Describe the process of formation of earth.

UNIT—II

3. Write short notes on any *two* of the following : 2×2=4

(a) Gravitational field of earth

(b) Plate tectonics

(c) Lithosphere and its environment

4. Answer any *one* of the following questions : 6

(a) Describe the mechanism of earthquake phenomena.

(b) Write a note on 'origin of the main geomagnetic field of the earth'.

UNIT—III

5. Write short notes on any *two* of the following : 2×2=4

(a) Physical weathering process

(b) Metamorphic rocks

(c) Rock lithification

6. Answer any *one* of the following questions : 6

(a) Describe the physical process of mineral and rock erosion.

(b) Describe the processes of weathering with its significance in soil formation.

UNIT—IV

7. Write short notes on any *two* of the following : 2×2=4

(a) Types of glaciers

(b) Formation of rivers

(c) Earth atmosphere

8. Answer any *one* of the following questions : 6

(a) Describe the significance of ocean-land interface in earth surface processes.

(b) Describe the importance of glacier dynamics in river water management.

UNIT—V

9. Answer any *two* of the following questions : 2×2=4

(a) Importance of mountains

(b) Significance of perennial river systems

(c) Significance of Indo-Gangetic plains in agricultural production

10. Answer any *one* of the following questions : 6

(a) Describe the process of formation of Indo-Gangetic plains.

(b) Add a note on 'formation of The Himalaya'.

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TDC (CBCS) Odd Semester Exam., 2018

ECOLOGY AND ENVIRONMENTAL SCIENCE

(1st Semester)

Course No. : EESHCC-102T

(Physics and Chemistry of Environment)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer any *two* of the following : 2×2=4

(a) Define wavelength of a radiation. State the expression for energy-wavelength relation.

(b) State and explain the first law of thermodynamics.

(c) What is meant by black-body radiation?

2. State Beer-Lambert law. Explain how the concept is useful in determining concentration of dissolved substances citing suitable example. 6

Or

Distinguish between convection and conduction as heat transfer process. Provide suitable examples. 6

UNIT—II

3. Answer any *two* of the following : 2×2=4

(a) Explain the concept of electronegativity.

(b) Define coordinate bond.

(c) Taking suitable example, define redox reaction.

4. Define the terms mole, molarity and normality. What is meant by 1 mole of oxalic acid? If 4·5 g of oxalic acid is dissolved in 100 ml of water, calculate the molarity and normality of the solution. 1½+½+4=6

Or

Write short notes on the following : 3+3=6

(a) H-bonding

(b) Solubility product

UNIT—III

5. Answer any *two* of the following : 2×2=4

(a) Briefly comment on troposphere.

(b) What is meant by photochemical smog?

(c) How is CO_2 in earth's atmosphere regulated?

6. Where is ozone layer located? Mention two chemical species responsible for depletion of ozone layer (give relevant chemical reactions). How is ozone layer useful? 1+4+1=6

Or

Write short notes on the following : 3+3=6

(a) Aerosols

(b) SO_2 as pollutant

UNIT—IV

7. Answer any *two* of the following : 2×2=4

(a) What is meant by COD? Explain.

(b) Define hardness of water.

(c) Why are organomercury compounds more hazardous?

8. Write notes on acidity and alkalinity of water. Briefly describe the method of estimation of total hardness of water. 4+2=6

Or

Write a note on heavy metals present in natural water bodies. 6

UNIT—V

9. Answer any *two* of the following : 2×2=4

(a) Define humic soil.

(b) Mention the inorganic constituents of soil.

(c) What are the sources of phosphorus in soil?

10. Briefly discuss the role of nitrogen (N) as soil nutrient. 6

Or

Write a note on organic matter in soil with special emphasis on how it influences the soil properties. 6

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