2023/TDC(CBCS)/ODD/SEM/
EESHCC-102T/389

TDC (CBCS) Odd Semester Exam., 2023

ECOLOGY AND ENVIRONMENTAL SCIENCE

(Honours)

(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

SECTION—A

Answer *ten* questions, selecting any *two* from each Unit : 2×10=20

UNIT—I

1. What is gravitational force?

2. What is convection?

3. State the laws of thermodynamics.

UNIT—II

4. What is normality?

5. What is molarity?

6. What is redox potential?

UNIT—III

7. What is sulphur smog?

8. State the causes of ozone layer depletion.

9. Define aerosol.

UNIT—IV

10. Define acidity of water.

11. What do you mean by solubility of metals?

12. What is hard water? Give an example.

UNIT—V

13. What is humus?

14. State the organic components of soil.

15. State the role of potassium in soil.

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 6×5=30

UNIT—I

16. Discuss the basic concepts of pressure, force, work and energy. 6

17. Write short notes on the following : 2×3=6

(a) Conduction of heat

(b) Concept of temperature

(c) Centrifugal force

UNIT—II

18. Discuss different types of chemical bonds with examples. 6

19. Write short notes on the following : 2×3=6

(a) Concept of pH

(b) Electron affinity

(c) Mole concept

UNIT—III

20. Give an account on mechanism of smog formation in atmosphere. 6

21. Write short notes on the following : 2×3=6

(a) Free radicals

(b) Affect of acid rain

(c) Ozone hole

UNIT—IV

22. What are colloids? State the properties of colloids with examples. 1+5=6

23. Write short notes on the following : 2×3=6

(a) Physical properties of water

(b) Chelating agents

(c) Heavy metals

UNIT—V

24. Give an account on soil composition. 6

25. Write short notes on the following : 2×3=6

(a) Role of nitrogen in soil

(b) Role of phosphorus in soil

(c) Phenolic compounds in soil

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