(Pages : 3) **S – 1290**

Reg. No. : .....

Name : .....

Ph.D. ENTRANCE EXAMINATION 2023

FACULTY OF APPLIED SCIENCES AND TECHNOLOGY

ENVIRONMENTAL SCIENCES

Time : 3 Hours Max. Marks : 100

Instructions **:**

1) *Answer **any ten** questions each from* Section ***A*** *and* Section ***B.***
2) *Each question carries **5** marks.*
3) *No additional Answer sheets will be provided.*
4) *Candidates should clearly indicate the section, Question number in the answer booklet.*

Section – A

Research Methodology

I. Answer any **ten** questions. Each questions carries **5** marks.

1. Explain research plan and define its different component.

2. What is spectrophotometer? Explain its working principle.

3. What is literature review? Write their importance for research work.

4. How do you perform correlation coefficient matrix in environmental interpretations?

5. Explain the principle of chromatography and its applications.

6. Intellectual Property Rights (IPR) and its importance.

7. Write the importance of Titrimetric analysis and its application.

8. Essay on HPLC and its usage in environmental samples.

9. What is quality control analysis (QC)? Give some tools of QC.

10. What is plagiarism? Explain the role on research field.

11. Write a note on Atomic Absorption Spectrophotometer (AAS) and its principle.

12. What is report writing? Write the importance of reference quote.

13. Write a short note on data collection and its different types.

14. What is chemical analysis? List out important techniques in short forms.

15. Explain different types of hypothesis to work out research problem.

(10 × 5 = 50 Marks)

Section – B

Environmental Sciences

II. Answer any **ten** questions. Each question carries **5** marks.

1. How do you link climate change and environment?

2. What is flooding? Explain its management action plan.

3. What is ecosystem? Explain its various components.

4. Explain biomedical waste and the safe landfill adaptation.

5. Write a note on renewable energy sources for sustainable development.

6. What is Environmental Impact Assessment (EIA)? Explain with case.

7. Explain fossil fuels and its reserve in the continent.

8. Essay on atmosphere and its role in climate change.

9. Explain about bioventing in organic materials.

10. What is waste? Write various types of waste in the environment.

11. How to adopt environmental conservation in daily life?

12. What is global warming? Whether it is controllable?

13. What is environmental assay value in microbial work assessment?

14. How does carbon cycle help environmental sustainability?

15. What is Chemical Oxygen Demand (COD)? Explain the procedure.

——————— **(10 × 5 = 50 Marks)**