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Reg. No. : .....

Name : .....

Ph.D. ENTRANCE EXAMINATION, NOVEMBER 2022

FACULTY OF APPLIED SCIENCE AND TECHNOLOGY

ENVIRONMENTAL SCIENCES

Time : 3 Hours Max. Marks : 100

Instructions **:**

1) *Answer **any ten** questions each from* Section ***A*** *and* ***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. All Questions carry equal marks.

1. Explain different types of literature review for research work.
2. What is research plan? Define different components of the research.
3. What is Titrimetric analysis? Explain its application.
4. Write a note on working principles of spectrophotometer.
5. Explain Correlation coefficient matrix for environmental analysis.
6. What is plagiarism? Explain the role on research field.
7. What is chromatography? Explain its technique and applications.
8. Essay on Intellectual property rights and its importance.
9. Write a note on HPLC and its importance in environmental samples.

10. What is quality control analysis? Explain with water quality test.
11. Write a note on Flame Photometer and its working principle.
12. What is report writing? Include the importance of foot note and reference quote.
13. Explain different types of hypothesis to work out research problem.
14. Write a short note on data collection and its different types.
15. What is chemical analysis? List out important techniques in short forms.

(10 × 5 = 50 Marks)

Section – B

Environmental Sciences

II. Answer any **ten** questions. All Questions carry equal marks.

16. Explain the importance of Environmental Impact Assessment.
17. Whether climate change and environment is interlinked? Explain.
18. What kind of disaster management action plan adopted during flooding?
19. What is Biological Oxygen Demand (BOD)? Explain its importance.
20. Explain the importance of landfill on biomedical waste.
21. Write a note on renewable energy sources for sustainable development.
22. What is ecosystem? explain its various structures.
23. Explain the formation and migration of fossil fuels with past time scale.
24. Short note on atmosphere and its major composition.
25. How does carbon cycle help environmental sustainability?
26. What is waste? Write various types of waste in the environment.
27. Explain the meaning of environmental conservation with few example.
28. What is global warming? Whether it is natural or man-made phenomena?
29. Explain various simple methods of bioventing in organic materials.
30. What is environmental assay value in microbial work assessment?

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(10 × 5 = 50 Marks)