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Reg. No. : .....

Name : .....

Ph.D. ENTRANCE EXAMINATION, NOVEMBER 2022

FACULTY OF APPLIED SCIENCE AND TECHNOLOGY

FUTURES STUDIES/TECHNOLOGY MANAGEMENT

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. What is the difference between Research methods and Research methodology?

2. What is Ex post facto research? Is this a feature of descriptive research or analytical research?

3. What are the main issues which the researcher needs to focus on while formulating the research problem?

4. Differentiate between the experience survey and the pilot survey.

5. Summarize the relative merits and demerits of Scalogram analysis and Factor analysis.

6. *Discuss Depth interviews* as a technique of data collection.

7. Distinguish between *statistics of attributes and statistics of variables*.

8. Explain the central limit theorem. Is it useful in quantitative data analysis? How?

9. Discuss the important parametric tests used in testing hypotheses.

10. What are the limitations of tests of hypotheses?

11. What is Chi-square text? Explain its significance in statistical analysis.

12. “lntepretation is a fundamental component of the research process” Is it? Why?

13. Discuss ‘Documentation’ in the context of a research report.

14. Explain the necessity of defining a research problem.

15. What is a research design? Explain the major types of research designs.

(10 × 5 = 50 Marks)

Section – B

Futures Studies / Technology Management

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

1. Briefly explain any two methods of technology forecasting.

2. Discuss how to conduct a Delphi sequence.

3. Define Gompertz Curve. Explain how the Gompertz curve is employed in technology forecasting.

4. Distinguish between technology assessment and environment impact analysis.

5. How does cross-impact analysis help in understanding the forces surrounding an evolving technology? Explain with an example.

6. Explain the method of Monte-Carlo simulation.

7. Mention two simulation methods useful in technology forecasting and assessment. Give brief descriptions of these methods.

8. Explain the impact of common errors like contextual errors, biased data and faulty assumptions in technology forecasting.

9. Mention the six basic concepts of Futures Studies as per Inayatullah. Give brief description of these concepts.

10. What is Futures Studies? Whom do you mean by a futurist?

11. Describe a case study of Cross-Impact Analysis.

12. How can scenarios and futures wheel be combined?

13. What is Environmental Scanning? Mention its aims. Briefly describe the process of Environmental scanning.

14. How do you identify challenges of specific scenarios for specific domains? How do these challenges help to prioritize strategic issues?

15. Briefly describe the prominent schools of Futures.

(10 × 5 = 50 Marks)

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