

(6 pages)

Reg. No. :

Code No. : 7746

Sub. Code : ZCIM 34

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Third Semester

Computer Science with Artificial Intelligence — Core

RESEARCH METHODOLOGY

(For those who joined in July 2022 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The main aim of the scientific method in the research field is to _____
 - (a) Improve data interpretation
 - (b) Confirm triangulation
 - (c) Introduce new variables
 - (d) Eliminate spurious relations

2. What is the name of the conceptual framework in which the research is carried out?
 - (a) Research hypothesis
 - (b) Synopsis of research
 - (c) Research paradigm
 - (d) Research design
3. Which of the following features are considered as critical in qualitative research?
 - (a) Collecting data with the help of standardized research tools
 - (b) Design sampling with probability sample techniques
 - (c) Collecting data with bottom-up empirical evidence
 - (d) Gathering data with top-down schematic evidence
4. Which among the following is not-probability sampling?
 - (a) Stratified sampling
 - (b) Systematic sampling
 - (c) Simple random sampling
 - (d) Deliberate sampling

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5. Which type of survey deals with developing ideas through discussions?
 - (a) census survey
 - (b) statistic survey
 - (c) pilot survey
 - (d) experimental survey
6. What are the factors considered for research design?
 - (a) the means of obtaining data
 - (b) objective of the problem
 - (c) availability of time and money
 - (d) all of the above
7. In which principle of research design there is a possibility to eliminate the effect of extraneous factor from the experimental error?
 - (a) Principle of replication
 - (b) Principle of randomization
 - (c) Principle of local control
 - (d) Principle of analysis of variance
8. Which among the following is a formal experimental design?
 - (a) Factorial designs
 - (b) Before-and-after without control design
 - (c) After-only with control design
 - (d) Before-and after with control design

9. Reliability of measurement scale ensures _____
 - (a) Availability
 - (b) Accuracy
 - (c) Validity
 - (d) Practicality
10. Which approach conforms to some ranking of items?
 - (a) Arbitrary
 - (b) Consensus
 - (c) Cumulative
 - (d) Factor

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Describe the objectives of research.
Or
(b) Distinguish between the research methods and methodology.
12. (a) Explain the general features of good design.
Or
(b) Point out the advantages of probability sampling.
13. (a) Elucidate the sources of error in measurement.
Or
(b) How will you collection of data through questionnaires? Explain.

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14. (a) Elaborate the process of data preparation.

Or

(b) Write down the concept of one way ANOVA.

15. (a) Assess the computer role in research work.

Or

(b) Summarize the technique of interpretation data.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Compare the research and scientific method.

Or

(b) How will you selection of research problem?
Explain.

17. (a) Discuss the basic principles of experimental designs.

Or

(b) What are the methods for informal experimental designs? Describe.

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18. (a) How will you collection of data through schedules? Explain.

Or

(b) Analysis the steps to collection a primary data with example.

19. (a) Highlight the classification of data preparation.

Or

(b) Examine the different types of analysis.

20. (a) Conclude the mechanics of writing research report.

Or

(b) What are the various types of solution procedure and algorithm? Explain.

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