



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University under section 3 of the UGC Act 1956)

Ph.D Entrance Test – November – 2025

Faculty of Engineering & Technology

Instructions / Note:

1. Answer all the questions. Each question carries one mark.
2. No negative marks for wrong answers.
3. Read each question carefully and answer in the OMR sheet provided for each question with only blue/ black pen to fill the circles in the OMR Sheet.
4. Question number 1 - 35 questions belong to Research Methodology component and Question number 36-70 questions belong to the subject at PG level
5. Return the question paper along with the OMR sheet.

1. The main objective of research is to _____
 - A. Discover new knowledge
 - B. Repeat existing information
 - C. Support assumptions
 - D. Ignore evidence
2. Historical research mainly deals with _____
 - A. Future trends
 - B. Past events
 - C. Current actions
 - D. Scientific experiments
3. Validity refers to _____
 - A. Accuracy of measurement and truthfulness of results
 - B. Speed of data collection
 - C. Number of samples
 - D. Convenience of tools used
4. One of the essential traits of a researcher is _____
 - A. Narrow-mindedness
 - B. Patience and perseverance
 - C. Impatience
 - D. Negligence
5. The root meaning of "Research" is _____



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- A. To discover without evidence
 - B. To search again
 - C. To collect random data
 - D. To guess new theories
6. In the research process, which of the following steps most directly determines the direction and scope of subsequent data collection?
- A. Formulation of objectives
 - B. Identification of the research problem
 - C. Formulation of hypothesis
 - D. Analysis and interpretation of data
7. Which of the following is *not* a characteristic of a good research hypothesis?
- A. It is testable
 - B. It is value-laden
 - C. It is specific
 - D. It is based on existing theory or observation
8. Which sequence correctly represents the logical order of the research process?
- A. Data collection → Hypothesis formulation → Literature review → Report writing
 - B. Literature review → Problem identification → Data collection → Hypothesis formulation
 - C. Problem identification → Literature review → Hypothesis formulation → Data collection → Analysis → Report writing
 - D. Problem identification → Data collection → Literature review → Report writing
9. A researcher uses information from government reports and journal publications. This reflects reliance on _____
- A. Field data
 - B. Primary data
 - C. Secondary data
 - D. Archival data only
10. In hypothesis testing, the rejection of a true null hypothesis indicates _____
- A. Type I error
 - B. Type II error
 - C. Sampling bias
 - D. Measurement error
11. Which research method primarily deals with studying events or conditions that have already occurred?
- A. Experimental method
 - B. Historical method
 - C. Observational method
 - D. Survey method
12. Which research design involves the use of numerical analysis and inferential



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- statistics?
- A. Observational design
 - B. Operational design
 - C. Statistical design
 - D. Historical design
13. When a researcher observes classroom behavior without interfering, it is an example of _____
- A. Controlled observation
 - B. Participant observation
 - C. Non-participant observation
 - D. Experimental observation
14. In stratified random sampling, the main purpose of dividing the population into strata is to _____
- A. Increase sampling error
 - B. Ensure representation from all subgroups
 - C. Make data collection easier
 - D. Avoid randomization
15. Which of the following is a systematic sampling procedure?
- A. Selecting every 10th student from an attendance list
 - B. Choosing students based on convenience
 - C. Dividing students into gender groups and selecting randomly
 - D. Selecting students from only one department
16. Which of the following qualitative research approaches is primarily concerned with exploring *cultural patterns and meanings* within groups?
- A. Grounded theory
 - B. Phenomenology
 - C. Ethnography
 - D. Case study
17. Which of the following is most likely to be used in a subjective assessment of attitudes and opinions?
- A. Structured questionnaire with numeric rating
 - B. Interview or open-ended question format
 - C. Laboratory experiment
 - D. Statistical regression model
18. In quantitative research, *measurement* of variables refers to _____
- A. Assigning numbers or symbols according to specific rules
 - B. Conducting interviews with open-ended questions
 - C. Observing without interference
 - D. Recording verbal narratives
19. Which of the following data collection tools is most suitable for ethnographic



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- research?
- A. Standardized test
 - B. Participant observation and field notes
 - C. Laboratory experiment
 - D. Questionnaire with fixed responses
20. A researcher studies the effect of study hours on students' test scores. Here, the test score is _____
- A. Independent variable
 - B. Dependent variable
 - C. Control variable
 - D. Intervening variable
21. If two attributes are independent, their expected frequencies are calculated based on _____
- A. Correlation coefficient
 - B. Marginal totals
 - C. Regression equation
 - D. Standard deviation
22. The Chi-square (χ^2) test is most suitable for analyzing _____
- A. Interval data
 - B. Ratio data
 - C. Attributes or categorical data
 - D. Continuous data
23. The MANOVA (Multivariate Analysis of Variance) differs from ANOVA because it _____
- A. Tests relationships between categorical variables
 - B. Involves multiple dependent variables simultaneously
 - C. Tests for only two groups
 - D. Does not require hypothesis testing
24. In a simple linear regression equation, $Y = a + bX$, 'b' represents _____
- A. The intercept
 - B. The mean of Y
 - C. The slope or regression coefficient
 - D. The correlation value
25. If the standard deviation of a dataset is zero, it means _____
- A. The mean is zero
 - B. The data values are all equal
 - C. The distribution is normal
 - D. The data are negatively skewed
26. The visual representation of social links in a sociogram primarily helps researchers to _____



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- A. Predict future group productivity
 - B. Identify patterns of attraction, rejection, or isolation
 - C. Measure group performance
 - D. Establish causal inference
27. The purpose of conducting a sociometric study in an educational setting is to _____
- A. Grade students on communication ability
 - B. Understand peer relationships and improve classroom dynamics
 - C. Evaluate teachers' performance
 - D. Measure learning outcomes
28. In sociometric studies, a member who is rarely chosen by others is referred to as _____
- A. A star
 - B. An isolate
 - C. A connector
 - D. A facilitator
29. A research scholar seeking *constructive feedback on an ongoing Ph.D. project* should ideally present in a _____
- A. Workshop
 - B. Symposium
 - C. Conference poster session
 - D. Seminar
30. The major output expected from a conference is _____
- A. Conceptual understanding
 - B. Consensus statements, proceedings, and collaborative research agendas
 - C. Skill training
 - D. Philosophical debate
31. A high-quality literature review is characterized by _____
- A. Listing as many sources as possible
 - B. Critical analysis, synthesis, and identification of trends
 - C. Repetition of other researchers' conclusions
 - D. Use of only recent articles
32. The clarity and simplicity of report writing can be improved by _____
- A. Using shorter sentences and active voice
 - B. Adding more tables and figures
 - C. Increasing the use of academic jargon
 - D. Including as many citations as possible
33. Which citation style primarily uses superscript numbers in the text linked to a numbered



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reference list?

- A. APA
- B. Harvard
- C. Vancouver
- D. Chicago (author–date)

34. In the Harvard referencing style, the reference list is _____

- A. Alphabetically arranged by the author's surname
- B. Arranged by year of publication
- C. Numbered according to the order of citation
- D. Grouped by type of source (books, journals, etc.)

35. Which of the following elements is not typically part of a proposal?

- A. Statement of the problem
- B. Research design
- C. Results and discussion
- D. Hypothesis or research questions

