



**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 Dentistry**

**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.

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1. A theory is best defined as \_\_\_\_\_
  - A. A proven fact
  - B. A framework explaining observations
  - C. A random idea
  - D. A temporary assumption
2. Which of the following is NOT a type of variable?
  - A. Independent
  - B. Dependent
  - C. Confounding
  - D. Informative
3. An operational definition describes \_\_\_\_\_
  - A. How a concept is measured
  - B. Theoretical meaning of concept
  - C. Statistical model
  - D. A control group
4. A Likert scale typically has \_\_\_\_\_
  - A. 2 points
  - B. 3 points
  - C. 5 or 7 points
  - D. 10 points only



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5. A hypothesis that predicts a direction is \_\_\_\_\_
  - A. Null hypothesis
  - B. Non-directional hypothesis
  - C. Directional hypothesis
  - D. Alternative without direction
  
6. The first step in research is usually \_\_\_\_\_
  - A. Data collection
  - B. Identifying problem
  - C. Hypothesis testing
  - D. Writing report
  
7. Construct validity refers to \_\_\_\_\_
  - A. How well a test measures a concept
  - B. Reproducibility of test
  - C. Accuracy of statistics
  - D. Randomization method
  
8. Stratified sampling is used when \_\_\_\_\_
  - A. Population is homogeneous
  - B. Population has subgroups
  - C. Sampling is random
  - D. Clusters are used
  
9. The main purpose of randomization is \_\_\_\_\_
  - A. Reduce confounding bias
  - B. Increase bias
  - C. Simplify data entry
  - D. Improve external validity
  
10. A cohort study is an example of \_\_\_\_\_
  - A. Experimental study
  - B. Observational study
  - C. Case-control
  - D. Cross-sectional
  
11. Which design best establishes cause-effect?
  - A. Cross-sectional
  - B. Randomized controlled trial
  - C. Case report
  - D. Case series



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12. Single-blind study means \_\_\_\_\_
- A. Only participant is unaware
  - B. Only investigator is unaware
  - C. Both are unaware
  - D. Neither is blinded
13. Convenience sampling may cause \_\_\_\_\_
- A. High accuracy
  - B. Sampling bias
  - C. Random variation
  - D. Elimination of bias
14. Systematic sampling selects every \_\_\_\_\_
- A. 'n'th element
  - B. Random element
  - C. Cluster
  - D. Unit twice
15. Median is preferred over mean when data are \_\_\_\_\_
- A. Symmetrical
  - B. Skewed
  - C. Normal
  - D. Uniform
16. Which graph is best for categorical data?
- A. Histogram
  - B. Bar chart
  - C. Scatter plot
  - D. Frequency polygon
17. Range is calculated as \_\_\_\_\_
- A. Mean of data
  - B. Maximum minus minimum
  - C. SD squared
  - D. Median  $\times$  mode
18. A scatter plot shows \_\_\_\_\_
- A. Relationship between two variables
  - B. Frequency of single variable
  - C. Categorical data
  - D. None of these



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19. When variance = 0, it means \_\_\_\_\_
- A. Moderate spread
  - B. High variation
  - C. All values same
  - D. Negative skew
20. Kurtosis measures \_\_\_\_\_
- A. Peak of distribution
  - B. Spread of data
  - C. Central tendency
  - D. Mean difference
21. An outlier is \_\_\_\_\_
- A. Value close to mean
  - B. Extreme value differing from others
  - C. Typical value
  - D. Average observation
22. Type II error means \_\_\_\_\_
- A. Accepting false null
  - B. Rejecting true null
  - C. Rejecting false null
  - D. None
23. t-test compares \_\_\_\_\_
- A. Two means
  - B. More than two means
  - C. Two proportions
  - D. Frequencies
24. ANOVA is used when \_\_\_\_\_
- A. Comparing two groups
  - B. Comparing more than two means
  - C. Testing correlation
  - D. Testing proportion
25. p-value represents \_\_\_\_\_
- A. Probability of null being true
  - B. Probability of obtaining result by chance
  - C. Confidence level
  - D. Mean difference



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26. Normal distribution mean = median = mode indicates \_\_\_\_\_
- A. Symmetry
  - B. Skewness
  - C. High kurtosis
  - D. Random data
27. Poisson distribution is used for \_\_\_\_\_
- A. Binomial outcomes
  - B. Continuous data
  - C. Normal data
  - D. Rare events
28. Predictive value of a test depends on \_\_\_\_\_
- A. Prevalence of disease
  - B. Sensitivity only
  - C. Specificity only
  - D. Randomization
29. Which referencing style uses author-date format?
- A. APA
  - B. Vancouver
  - C. Chicago numbered
  - D. Oxford
30. EndNote and Zotero are used for \_\_\_\_\_
- A. Data entry
  - B. Reference management
  - C. Statistical testing
  - D. Text formatting
31. Bias in research can be minimized by \_\_\_\_\_
- A. Randomization and blinding
  - B. Convenience sampling
  - C. Skewed sampling
  - D. Non-random selection
32. Academic writing avoids \_\_\_\_\_
- A. Personal pronouns
  - B. Objective tone
  - C. Citations
  - D. Technical terms



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33. Which is an example of plagiarism?
- A. Proper citation
  - B. Copying without reference
  - C. Paraphrasing with credit
  - D. Original writing
34. Chicago style may use \_\_\_\_\_
- A. Numbers only
  - B. Author-date only
  - C. Footnotes or endnotes
  - D. APA system
35. The main purpose of referencing is to \_\_\_\_\_
- A. Support statements and avoid plagiarism
  - B. Fill pages
  - C. Confuse readers
  - D. Add length

