SHG 15

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Ph.D. Course Work Examination, November 2015
Speech and Hearing

Time : 3 Hours

Total Marks : 70

PART – A

Each question carries **one** mark. Answer **all** the questions :

1. Preliminary data collection is a part of _____
   a) Basic research
   b) Descriptive research
   c) Exploratory research
   d) None

2. _____ is not a research design for descriptive research.
   a) Developmental research
   b) Case studies
   c) Comparative research
   d) Pretest-post test design

3. In observational studies bias can be controlled by _____
   a) Matching participants for confounding variables
   b) Grouping study participants into subsets
   c) Using multivariate methods during statistical analysis
   d) All of the above

4. _____ is not derived from the parent normal distribution.
   a) Chi-square distribution
   b) Student's t-distribution
   c) Poisson distribution
   d) Both a) and c)

5. _____ is not a method of non-probability sampling.
   a) Convenience sampling
   b) Quota sampling
   c) Cluster sampling
   d) Snowball sampling

6. Which graphic representation can be used to check the relation between two continuous variables ?
   a) Bar graph
   b) Scatter plot
   c) Line graph
   d) Box plot

7. _____ indicates association between risk factor and disease outcome.
   a) Chi-square test of association
   b) Relative risk
   c) Odds ratio
   d) All the above

P.T.O.

8. Which of the following statement is false ?
   a) ROC curve shows the trade-off between sensitivity and specificity
   b) Area under the ROC curve is a measure of accuracy of the test
   c) The closer the curve follows the left-hand border and then the top border of the ROC space, the more accurate is the test
   d) An area of 0.5 represents a perfect test

9. Sample size estimation is important because of the following reasons.
   a) Too small sample size may fail to detect a clinically important effect
   b) An oversized study has the potential to expose an unnecessarily large number of participants to treatments
   c) An oversized study can result in unnecessary waste of resources
   d) All the above

10. The primary goal of experimental research is to isolate and identify the effect produced by the _____
   a) Confounding variable
   b) Independent variable
   c) Extraneous variable
   d) Dependent variable

11. Which type of validity refers to the degree to which you can infer that the relationship between two variables is causal ?
   a) Population validity
   b) Internal validity
   c) Ecological validity
   d) None of the above

12. Approximately what percentage of scores fall within one standard deviation of the mean in a normal distribution ?
   a) 50%
   b) 99%
   c) 95%
   d) 68%

13. A positive correlation is said to be present when
   a) Two variables move in same direction
   b) Two variables move in opposite directions
   c) There is no linear dependency between the two variables
   d) Both a) and b)

14. Which of the following are examples of quantitative variables ?
   a) Gap discrimination threshold, Fundamental frequency
   b) Gender, religion
   c) Anxiety level, Reading performance
   d) Both a) and c)

15. Hypothesis refers to
    a) A tentative statement about the relationship between variables
    b) Conclusion of an experiment
    c) Outcome of the study
    d) None of the above

16. Which of the following would generally require the largest sample size ?
    a) Cluster sampling
    b) Systematic sampling
    c) Simple random sampling
    d) Case studies

17. Sources of researchable problems can include
    a) Researcher's own experiences as educators
    b) Practical issues that require solutions
    c) Theory and past research
    d) All of the above

18. A variable that is presumed to cause a change in another variable is called
    a) Intervening variable
    b) Independent variable
    c) Dependent variable
    d) Continuous variable

19. In _____ random assignment to groups is never possible and the researcher cannot manipulate the independent variable.
    a) Basic research
    b) Quantitative research
    c) Experimental research
    d) Causal-comparative and correlational research

20. The strongest evidence for causality comes from _____
    a) Causal-comparative studies
    b) Correlational studies
    c) Experimental research
    d) Case studies

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PART – B

Answer **any five** questions. **Each** question carries **10** marks :

1. Discuss the importance of experimental research in the field of speech language pathology. **10**

2. Write an essay on single subject research designs. **10**

3. Compare and contrast descriptive and experimental research designs. **10**

4. Highlight the importance of evidence-based practice. Discuss the importance of clinical research for evidence based practice in the field of audiology or speech language pathology. **10**

5. Describe various probability sampling methods for subject selection. Mention its advantages and limitations over non-probability sampling methods. **(6+4=10)**

6. Write a note on data. Discuss various methods for data collection. **(4+6=10)**

7. Discuss ethical issues for research in the field of speech and hearing. **10**

8. Write a note on various probability distributions. Discuss the assumptions of parametric tests. **(7+3=10)**

9. Write an essay on multivariate analysis. **10**

10. Discuss how to critically evaluate an article. List the available tools or guidelines useful for critical evaluation of articles. **10**
