

BA PSYCHOLOGY
SIXTH SEMESTER [SPECIAL REPEAT]
RESEARCH METHODOLOGY AND STATISTICS-II
BPY – 602

SET
A

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

(Objective)

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- The hypothesis which states that no difference exists between the scores of the variables are:
 - Research hypothesis
 - Directional hypothesis
 - Null hypothesis
 - Statistical hypothesis
- What is a research problem?
 - A solution to a research question
 - A statement that identifies an area of concern or gap in knowledge
 - A conclusion drawn from research findings
 - A description of research methods
- Which of the following is NOT a potential source for stating a research problem?
 - Personal opinion
 - Literature review
 - Previous research findings
 - Random guessing
- What are the characteristics of a research problem?
 - Clearly defined and specific
 - Subjective and vague
 - Based solely on personal interest
 - Constantly changing
- What is a hypothesis?
 - A guess
 - A proven fact
 - A tentative explanation for an observed phenomenon
 - A research method
- A researcher selects a probability sample of 100 out of the total population. It is called:
 - A quota sample
 - A simple random sample
 - A stratified random sample
 - A systematic sample
- To ensure the accuracy of a research, the sample should be:
 - Taken randomly
 - Fixed by quota
 - Representative of the population
 - Purposive
- How is a hypothesis formulated?
 - Based on random guesses
 - Through careful observation and reasoning
 - By copying previous research
 - By ignoring the research problem

9. What is sampling?
- a. Selecting an entire population
 - b. Conducting surveys without a defined target group
 - c. Examining a subset of a population to make inferences
 - d. Ignoring population characteristics
10. Which of the following is not a type of sampling?
- a. Convenience sampling
 - b. Stratified sampling
 - c. Judgment sampling
 - d. Total sampling
11. What type of research design involves manipulating variables to establish cause-and-effect relationships?
- a. Correlational design
 - b. Factorial design
 - c. Quasi-experimental design
 - d. Experimental design
12. How many independent variables in a 2x2x2, factorial design?
- a. 2
 - b. 6
 - c. 3
 - d. 8
13. How many independent variables are typically manipulated in a factorial design?
- a. One
 - b. Two
 - c. Three
 - d. Variable, depending on the study
14. Which type of research design focuses on examining relationships between variables without manipulation?
- a. Experimental design
 - b. Factorial design
 - c. Correlational design
 - d. Quasi-experimental design
15. When studying an active independent variable, an intervention or treatment given to group of participants is called:
- a. Experimental group
 - b. Control group
 - c. Both (a) and (b)
 - d. Neither (a) or (b)
16. What does the Pearson product-moment correlation coefficient measure?
- a. Strength of linear relationship
 - b. Magnitude of causation
 - c. Presence of outliers
 - d. Variation from normality
17. In a normal probability curve, what percentage of data falls within one standard deviation from the mean?
- a. 68%
 - b. 95%
 - c. 75%
 - d. 90%
18. Divergence from normality in a data set suggests:
- a. Strong correlation
 - b. Outlier presence
 - c. Skewed distribution
 - d. Linear relationship

19. The significance of the mean in statistics lies in its:
- a. Representation of central tendency
 - b. Measure of variability
 - c. Association with the median
 - d. Indication of sample size
20. What does a t-test assess?
- a. Variance between groups
 - b. Normality of data distribution
 - c. Difference between means
 - d. Strength of correlation

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(Descriptive)

Time : 2 Hr. 30 Mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What does hypothesis mean in research? Formulate research problem of your interest and write two objectives for your research problem. Formulate a null hypothesis for your research problem. 4+3+3=10

2. Write down the meaning and characteristics of a research problem. 4+6=10

3. What do you mean by sampling in research? Discuss the different types of sampling techniques. 2+8=10

4. Discuss the following concepts: 5+5=10
 - a) What are the factors that influencing decision to sample?
 - b) Explain the importance of Quasi experimental design with examples.

5. Discuss the following Research Designs: (any two) 5+5=10
 - a) Experimental design
 - b) Factorial design
 - c) Correlational design

6. An intelligence test was administered on a group of 500 cases of class 5. The Mean I.Q. of the students was found 100 and S.D. of I.Q scores was 16. Find how many students of class 5 having the I.Q ? 5+5=10
 - a) Below 80 and
 - b) Above 120

7. a) Discuss the following concepts: 5+5=10
 - i) Significance of mean.
 - ii) Degrees of freedom and confidence intervals in testing null hypothesis

b) Given $M=25.00$, $SD = 4$, $N=100$. Compute at .95 confidence interval for the true mean.

8. a) Discuss any six properties of NPC? 5+5=10

b) Locate the position in NPC with the help of diagram-

 - i) The Mean, Median and Mode in the normal curve
 - ii) $Z = +2.5 \sigma$ and $Z = -1.5 \sigma$ in normal curve

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