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BRAINWARE UNIVERSITY

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700123

Term End Examination 2025-2026

Programme – M.Sc.(ANCS)-2025

Course Name – Research Methodology and Ethics

Course Code - MNC20406

(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Choose the concept of descriptive research to a study on student attendance.
 - a) Manipulating attendance records
 - b) Conducting surveys to describe attendance patterns
 - c) Testing cause–effect relationships
 - d) Developing a theory
- (ii) State the role of a research problem in the research process.
 - a) It finalizes results
 - b) It guides objectives and methodology
 - c) It replaces data analysis
 - d) It summarizes findings
- (iii) Select the importance of a conceptual framework in research.
 - a) It replaces theory
 - b) It shows relationships among variables
 - c) It eliminates hypotheses
 - d) It avoids data collection
- (iv) Select any one primary source of literature used in research.
 - a) Textbook summary
 - b) Journal research article
 - c) Encyclopedia
 - d) Magazine article
- (v) Predict the concept of applied research to a real-life scenario.
 - a) Studying philosophy
 - b) Developing a cybersecurity solution
 - c) Reviewing literature
 - d) Formulating theory
- (vi) Sketch the hypothesis testing appropriately in a research study.
 - a) In qualitative research
 - b) In quantitative research
 - c) In exploratory research
 - d) In narrative studies
- (vii) Select why frequency tables are essential before graphical representation.
 - a) Reduce sample size
 - b) Organize raw data systematically
 - c) Replace analysis
 - d) Increase bias
- (viii) Sketch the suitability of regression analysis for prediction.
 - a) Used only for description
 - b) Explains cause–effect and prediction
 - c) Limited to categories
 - d) Avoids assumptions
- (ix) Identify why ANOVA is preferred over multiple t-tests.

- a) Reduces computation
- b) Controls Type I error
- c) Eliminates assumptions
- d) Increases bias
- (x) Indicate how statistical software improves data analysis accuracy.
 - a) Increases bias
 - b) Reduces human error and speeds computation
 - c) Eliminates assumptions
 - d) Avoids validation
- (xi) Recall the section of a research report that summarizes the entire study.
 - a) Methodology
 - b) Abstract
 - c) Conclusion
 - d) References
- (xii) Recognize the effect of plagiarism on academic institutions.
 - a) Improves ranking
 - b) Damages reputation and credibility
 - c) Increases output
 - d) Enhances visibility
- (xiii) Determine the copyright principles to academic publishing.
 - a) Allow free copying
 - b) Control reproduction and distribution
 - c) Avoid citations
 - d) Replace patents
- (xiv) Choose Chi-square test when the data type is:
 - a) Continuous
 - b) Categorical
 - c) Ratio
 - d) Interval
- (xv) Justify the long-term benefit of IPR awareness for researchers.
 - a) Administrative burden
 - b) Protection and commercialization of innovation
 - c) Reduced collaboration
 - d) Delayed publication

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. Discuss the conceptual framework in research. (3)
- 3. Write the importance of ANOVA in comparing multiple group means. (3)
- 4. Examine the importance of research ethics in maintaining trust in academic research. (3)
- 5. Evaluate the concept of research publication in the context of academic and scientific communication. (3)
- 6. Explain the importance of ethical considerations in research publications. (3)

OR

- Categorize the role of international IPR frameworks in global research collaboration. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- 7. Define the concept of descriptive statistics and state its major components. (5)
- 8. Apply the concept of sampling by explaining probability and non-probability sampling techniques. (5)
- 9. Organize the role of research variables and their classification in data collection. (5)
- 10. Consider the impact of poor data collection and sampling methods on research outcomes. (5)
- 11. Evaluate the importance of a well-defined research methodology for ensuring valid research outcomes. (5)
- 12. Critically evaluate the limitations of graphical representation in large datasets. (5)

OR

- Three teaching methods are tested on students. Their scores are: Method A: 8, 9, 6 (5)
- Method B: 5, 4, 7 Method C: 10, 12, 9 Test at 5% significance level whether the mean scores differ.

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