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**Avinashilingam Institute for Home Science and Higher Education for Women**

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD [now MoE]

Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India.

**Continuous Internal Assessment Test II – March 2026**

**II Semester**

**Class: I M.Ed.  
Major: Education**

**Time: 2 Hours  
Maximum Marks: 60**

**25MEDC07 Advanced Educational Research and Statistics**

**Course outcomes**

**At the end of the course, students will:**

- CO1** Choose appropriate quantitative or qualitative method to collect data.
- CO2** Write a research proposal suitable for submission to a research funding body.
- CO3** Carry out independent research using arrange of research designs and methods.
- CO4** Maintain respect for individual research contributions and intellectual property rights, and demonstrate ethical behavior.
- CO5** Interpret and present the results of an independently conducted statistical analysis.

**PART – A**

**Choose the correct answer**

**6 x 1 = 6**

1. Intellectual Property Rights (IPR) include CO3 K1
  - a. Patents only
  - b. Copyright only
  - c. Trademarks only
  - d. Patents, copyrights, and trademarks
2. Plagiarism refers to CO3 K1
  - a. Publishing research findings
  - b. Presenting someone else's work as one's own
  - c. Using one's own ideas
  - d. Citing sources properly
3. A scatter plot is used to CO4 K2
  - a. Calculate mean
  - b. Show frequency
  - c. Display the relationship between two variables
  - d. Test hypothesis
4. The regression equation is generally written as CO4 K2
  - a.  $X = a + by$
  - b.  $Y = a + bX$
  - c.  $Y = abX$
  - d.  $X = Y + a$
5. Which of the following is a non-parametric test? CO5 K2
  - a. Chi-square test
  - b. ANOVA
  - c. t-test
  - d. Z-test
6. Chi-square test of goodness of fit is used to CO5 K2
  - a. Compare means
  - b. Test the relationship between variables
  - c. Compare observed and expected frequencies
  - d. Measure correlation

**PART – B**

**Answer ALL questions**

**3 x 6 = 18**

**Each answer should not exceed 400 words or two pages**

7. a. Discuss the concept of Intellectual property rights and its importance in research. CO3 K2
  - (or)
  7. b. Discuss the concept of the Copyright Act and its importance in research. CO3 K2
  8. a. Explain scatter plots using a diagram and provide an interpretation. CO4 K4
  - (or)
  8. b. Find Regression Coefficient (b) CO4 K5
- |   |   |   |    |    |    |
|---|---|---|----|----|----|
| X | 2 | 4 | 6  | 8  | 10 |
| Y | 4 | 8 | 12 | 16 | 20 |
9. a. Differentiate between parametric and non-parametric methods. CO5 K2
  - (or)
  9. b. Describe one-tailed and two-tailed tests with examples. CO5 K2

**PART – C**

**Answer ALL questions**

**3 x 12 = 36**

**Each answer should not exceed 800 words or four pages**

10. a. Explain citation and its types. Describe the three most common citation styles and compare them. CO3 K4
- (or)
10. b. Define plagiarism. Explain various forms of plagiarism and suggest preventive measures. CO3 K4

11. a. Calculate the Spearman's Rank Correlation ( $\rho$ ) between students' scores in Mathematics and Physics for the following 5 students and interpret the result. CO4 K5  
Maths (X): 85, 78, 92, 70, 88  
Physics (Y): 80, 75, 88, 72, 85

(or)

11. b. Calculate the Pearson's Product Moment Correlation Coefficient ( $r$ ) between hours of study and test scores of 5 students. CO4 K5  
Hours of Study (X): 2, 4, 6, 8, 10  
Test Score (Y): 40, 50, 65, 70, 85

12. a. Find Standard Error of Mean (SEM). CO5 K5  
Marks of 5 students: 10, 12, 14, 16, 18

(or)

12. b. Find Goodness of Fit. CO5 K5  
A teacher wants to know whether students prefer all teaching methods equally. A survey was conducted among 100 students regarding their preferred teaching method. The observed frequencies are:

Teaching Method	Lecture	Discussion	Activity	Smart Class	Project	Total
Observed (O)	18	22	20	25	15	100

No. of Copies: 8

Staff in-charge: Ms.M.Vijayalakshmi