



H. Sambal

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 A++ Grade by NAAC. CGPA 3.65 /4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Bachelor of Physical Education Degree Examination – April 2026

IV Semester

Class: II B.P.Ed.

Time : 3 Hours

Max. Marks : 100

23BPDE4A DSE - IV: Research and Statistics in Physical Education

Course Outcomes:

CO1: Identify the research problem in the field of Physical Education and Sports

CO2: Know to summarize the various research literature

CO3: Understand and apply the basics of statistics in research

CO4: Organize the samples and sampling techniques which is relevant to the study

CO5: Apply the basics of statistics in minor research project for evaluation

Part A

10 x 1 = 10

Choose the Correct Answer

- Which of the following best defines research? CO1 K1
 - Collection of random information
 - Systematic investigation to establish facts
 - Guessing based on experience
 - Personal opinion
- The variable manipulated by the researcher in an experiment is called CO2 K2
 - Dependent variable
 - Independent variable
 - Extraneous variable
 - Control variable
- Which of the following is a non-experimental research method? CO2 K2
 - True experimental design
 - Quasi-experimental design
 - Correlational research
 - Randomized control trial
- Random assignment of subjects is essential to ensure CO2 K3
 - Bias
 - Validity
 - Manipulation
 - Observation
- Which sampling technique provides equal opportunity? CO3 K2
 - Stratified sampling
 - Convenience sampling
 - Simple random sampling
 - Purposive sampling
- The arithmetic mean is calculated by CO4 K1
 - Dividing the sum of scores by the number of scores
 - Identifying the most frequent score
 - Finding the middle value
 - Subtracting lowest from highest
- Which measure is most appropriate to determine the spread of scores around the mean? CO4 K2
 - Range
 - Median
 - Standard deviation
 - Mode
- A correlation coefficient of -0.75 indicates CO2 K2
 - Strong positive relationship
 - Weak positive relationship
 - Strong negative relationship
 - No relationship
- _____ is used to find out significant difference between the means of two population samples. CO5 K2
 - Mean
 - Correlation
 - T Test
 - Median
- Action research in physical education is conducted to CO5 K2
 - Test international theories
 - Improve teaching-learning processes
 - Develop statistical formulas
 - Compare global populations

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11. a. What is research? CO1 K2
(or)
- 11.b. Enumerate the types of Research. CO2 K3
- 12a. What is meant by experimental research? CO2 K2
(or)
- 12.b. What is non-experimental research? CO2 K2
- 13.a. Write about types of Hypothesis. CO3 K2
(or)
- 13.b. Give the types of graphical representation in research. CO3 K3
- 14.a. What is Class Interval? CO4 K3
(or)
- 14.b. What does standard deviation measure in a dataset? CO1 K2
- 15.a. Calculate the **Mean, Median, and Mode** for the given data. CO5 K4

12, 15, 18, 20, 15, 22, 25, 18, 19, 15, 17, 21, 18, 16, 15
(or)
- 15.b. List out the steps of **Pearson's Product Moment Correlation Coefficient** CO4 K6

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16. a. Discuss the significance of research in physical education CO2 K1
(or)
- 16.b. Explain Limitation and Delimitation in research. CO4 K3
- 17. a. Differentiate between experimental and non-experimental research. CO3 K2
(or)
- 17.b. How to perform a survey study? CO3 K2
- 18. a. Write features of Research Design. CO3 K4
(or)
- 18.b. Describe the steps involved in conducting a research study in physical education. CO3 K5
- 19. a. Explain the types of sampling techniques CO4 K3
(or)
- 19.b. Explain the measures of central tendency. CO4 K5
- 20. a. The scores of 10 students in a 50-meter sprint (in seconds) is 7.2, 7.5, 7.8, 7.4, 7.6, 7.3, 7.7, 7.5, 7.4 & 7.6 Calculate the Standard Deviation. CO5 K4
(or)
- 20.b. Calculate the independent t test: CO5 K4

Group A score	12	15	14	10	13
Group B score	18	20	17	19	16
