(6 pages)   Reg. No. : ....

Code No. : 20823 E   Sub. Code : EMFC 42

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Criminology and Forensic Science – Core

RESEARCH METHODS AND CASE STUDIES

(For those who joined in July 2023 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the first step in the research process?

    (a) Data collection

    (b) Defining the research problem

    (c) Analyzing results

    (d) Writing the report

2. What is the purpose of a literature review in research?

    (a) To find errors in previous research

    (b) To summarize past research and identify gaps

    (c) To replace data collection

    (d) To criticize other researchers

3. What is a hypothesis?

    (a) A proven fact

    (b) A suggested explanation that can be tested

    (c) A research report

    (d) A statistical tool

4. Which research design aims to establish a cause-and-effect relationship?

    (a) Exploratory   (b) Experimental

    (c) Descriptive   (d) Correlational

5. Which research design compares two or more groups without manipulating variables?

    (a) Descriptive research

    (b) Experimental research

    (c) Correlational research

    (d) Quasi-experimental research

6. The measure of central tendency that is most affected by extreme values is

(a) Mean (b) Median

(c) Mode (d) Range

7. Which of the following sampling methods gives each member of the population an equal chance of being selected?

(a) Stratified sampling

(b) Systematic sampling

(c) Random sampling

(d) Cluster sampling

8. A dependent variable is

(a) A variable that remains constant

(b) A variable that influences other variables

(c) A variable that depends on the independent variable

(d) A variable that is not measured in an experiment

9. Which chart type is NOT available in SPSS?

(a) Bar chart (b) Histogram

(c) Scatter plot (d) Flowchart

10. Descriptive case studies are commonly used in which field?

(a) Physics

(b) Social sciences

(c) Computer programming

(d) Mathematics

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Why are case studies important in research?

Or

(b) What is the main objective of a descriptive case study?

12. (a) What is the difference between descriptive and inferential statistics?

Or

(b) How is the median different from the mean?

13. (a) What are the key components of a research design?

Or

(b) What is the difference between probability and non-probability sampling?

14. (a) What is the role of methodology in research?

Or

(b) Why is a literature review important in research?

15. (a) What are the key characteristics of good research?

Or

(b) What is plagiarism in research?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Discuss the main objectives of research and how they guide the research process.

Or

(b) Compare and contrast descriptive and experimental research designs.

17. (a) What are the different data collection methods used in research? Discuss their advantages and disadvantages.

Or

(b) Discuss the characteristics of well-defined research objectives.

18. (a) Define a research hypothesis and explain its significance in scientific research.

Or

(b) Discuss the different sources of literature review and their reliability.

19. (a) Describe the different types of research design with suitable examples.

Or

(b) Discuss the importance of SPSS in research and data analysis.

20. (a) Discuss the differences between probability and non-probability sampling techniques.

Or

(b) Explain the role of observation in research and the different types of observational methods.

—————