

25U290

(Pages: 2)

Name :

Reg. No :

SECOND SEMESTER UG DEGREE EXAMINATION, APRIL 2026

(FYUGP)

(Regular/Supplementary/Improvement)

CC24USTA2FM106(2) - STATISTICAL SAMPLING AND PROBABILITY THEORY

(Statistics - MDC)

(2024 Admission onwards)

Time: 1.5 Hours

Maximum : 50 Marks

Credit: 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Explain quantitative variable . Give an example. [Level:2] [CO1]
2. Explain sample. Give two examples. [Level:2] [CO1]
3. Why is a census considered more accurate than a sample survey? [Level:2] [CO2]
4. Define non probability sampling. [Level:2] [CO2]
5. Describe sampling error. [Level:2] [CO2]
6. Discuss disadvantages of stratified random sampling. [Level:2] [CO3]
7. Explain cluster samling. [Level:2] [CO3]
8. Describe sample space and write one example. [Level:2] [CO4]
9. Explain mutually likely events. [Level:2] [CO4]
10. Explain the concept of statistical regularity. [Level:2] [CO4]

(Ceiling: 16 Marks)

Part B (Paragraph questions/Problem)

Answer *all* questions. Each question carries 6 marks.

11. Explain primary and secondary data. Give examples. [Level:2] [CO1]
12. Describe the points to be considered to make a good questionnaire. [Level:2] [CO2]
13. Explain simple random sampling. [Level:2] [CO3]
14. Explain how systematic sampling can be used in qualitative research. What would be the benefits in such contexts? [Level:2] [CO3]

15. Explain conditional probability. Let A and B are two events with $P(A) = 0.56$, $P(B) = 0.60$ and $P(A \text{ and } B) = 0.30$. Compute $P(A/B)$ and $P(B/A)$. [Level:3] [CO4]

(Ceiling: 24 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

16. What are the principal steps involved in conducting a sample survey? [Level:2] [CO2]
17. (i) Describe classical definition of probability, merits and demerits of classical definition. [Level:3] [CO4]
- (ii) In a deck of 52 cards compute the probability of getting (a) a king (b) ace or queen (c) diamond and ace (d) red card.

(1 × 10 = 10 Marks)
