

24U2101

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Name :

Reg. No :

SECOND SEMESTER UG DEGREE EXAMINATION, APRIL 2025

(FYUGP)

CC24USTA2FM106(2) - STATISTICAL SAMPLING AND PROBABILITY THEORY

(Statistics - MDC)

(2024 Admission - Regular)

Time: 1.5 Hours

Maximum : 50 Marks

Credit: 3

Part A (Short answer questions)

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

1. Explain variable. Give example. [Level:2] [CO1]
2. Explain sample with example. [Level:2] [CO1]
3. Explain the disadvantages of census. [Level:2] [CO2]
4. Describe probability sampling. [Level:2] [CO2]
5. Explain different types of sampling. [Level:2] [CO2]
6. Discuss the advantages of cluster sampling. [Level:2] [CO3]
7. Explain stratified random sampling. [Level:2] [CO3]
8. Define what do you mean by statistical regularity. [Level:2] [CO4]
9. Explain mutually likely events. [Level:2] [CO4]
10. A coin tossed two times. Write the sample space for this random experiment. [Level:2] [CO4]

(Ceiling: 16 Marks)

Part B (Paragraph questions/Problem)

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

11. Describe primary data. Write advantages and disadvantages of primary data. [Level:2] [CO1]
12. Discuss questionnaire and how to draft a questionnaire. [Level:2] [CO2]
13. Explain systematic sampling with suitable examples. [Level:2] [CO3]
14. Explain simple random sampling. Discuss its disadvantages. [Level:2] [CO3]
15. Describe conditional probability. Let A and B are two events with $P(A) = 1/3$, $P(B) = 1/4$ and $P(A \text{ and } B) = 1/6$. 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. Discuss the principal steps in a sample survey.

[Level:2] [CO2]

17. (i) Describe classical definition of probability.

[Level:3] [CO4]

(ii) If two unbiased dice are rolled what is the probability of getting.

(a) One die shows five.

(b) Sum of faces of two dice shows 9.

(c) Both dice shows same number.

(d) Sum of faces of two dice greater than 10.

(1 × 10 = 10 Marks)
