

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)**

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