

## 2/MDC-163 Syllabus-2023

**2 0 2 4**

( July/August )

**FYUP : 2nd Semester Examination**

**MULTIDISCIPLINARY COURSE**

**( Fundamentals of Statistics )**

( MDC-163 )

*Marks : 56*

*Time : 2½ hours*

*The figures in the margin indicate full marks  
for the questions*

### SECTION—A

Answer *any four* questions

1. What is the difference between primary and secondary data? 4
2. Write short notes on skewness and kurtosis. 2+2=4
3. Explain the meaning of the following terms : 1×4=4
  - (a) Event
  - (b) Sample space
  - (c) Mutually exclusive events
  - (d) Exhaustive events

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4. (a) Give the classical and axiomatic definition of probability. 2
- (b) What are the limitations of the classical approach to probability? 2
5. What is the difference between classification and tabulation? 4
6. What do you understand by absolute and relative measures of dispersion? Explain the advantages of the relative measures over the absolute measures of dispersion. 4

SECTION—B

Answer any four questions

7. (a) Define the term 'statistics' and discuss its functions and limitations.  $2+(2+2)=6$
- (b) What are the general rules of graphical presentation of data? 4
8. Describe the different measures of central tendency of a frequency distribution, mentioning their merits and demerits. Mention the properties of the arithmetic mean.  $5+3+2=10$

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9. (a) Define conditional probability. 3
- (b) State and prove Bayes' theorem.  $2+5=7$
10. (a) Define moments. 2
- (b) What is dispersion? Describe the principal measures of dispersion. Why is standard deviation called the best measure of dispersion?  $2+4+2=8$
11. (a) Describe the advantages and limitations of diagrammatic representation of statistical data. Name the different types of diagrams commonly used.  $5+2=7$
- (b) Write a short note on the characteristics of a good statistical table. 3
12. (a) Explain, with examples, the rules of addition and multiplication in the theory of probability. 2
- (b) Prove that for any two events A and B, we have
- $$P(A \cup B) = P(A) + P(B) - P(A \cap B) \quad 5$$

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(c) Two dice are thrown simultaneously.  
Find the probability of obtaining—

- (i) double six;
- (ii) no six;
- (iii) at least one six.

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