

2/MDC-163 Syllabus-2023

2026

(May-June)

FYUP : 2nd Semester Examination

MULTI DISCIPLINARY 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 :

4×4=16

1. Give the classical definition of probability.
What are its limitations? 1+3=4
2. (a) Give the meaning of skewness. 2
(b) Define kurtosis and moments. 1+1=2
3. Distinguish between primary and secondary data and discuss the various methods of collecting primary data. 2+2=4

(2)

4. Find the probability that a number selected at random from the numbers 1, 2, 3, ... , 35 is
- (a) a prime number;
- (b) multiple of 7;
- (c) multiple of 3 or 5. $2+1+1=4$

5. Calculate median from the following data :

80, 60, 70, 55, 95, 78, 43, 85

Also, write down its merits and demerits.

$$2+2=4$$

6. Given below are the seats won by different political parties in the polling outcome of a State Assembly elections :

Political Party	A	B	C	D	E	F
Seats won	75	55	37	29	10	37

- (a) Draw a bar graph to represent the polling results. 3
- (b) Which political party won the maximum number of seats? 1

SECTION—B

Answer any **four** of the following : $10 \times 4 = 40$

7. Explain the various methods of measuring dispersion and point out their merits and demerits. 10

(3)

8. Distinguish between classification and tabulation. Discuss the purpose, methods and importance of classification. 10

9. (a) Define the following with suitable examples : $2 \times 4 = 8$

- (i) Favourable events
- (ii) Equally likely events
- (iii) Independent events
- (iv) Exhaustive events

- (b) State Bayes' theorem. 2

10. (a) Define standard deviation. 2

- (b) Calculate the mean and standard deviation from the following data : 8

Class Interval	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
Frequency	8	16	24	32	20

11. (a) Three coins are tossed at once. Find the probability of getting—

- (i) 3 heads;
- (ii) at least 2 heads;
- (iii) at most 2 heads;
- (iv) exactly 2 tails;
- (v) at most 2 tails;
- (vi) at least 1 tail. 1 \times 6 = 6

(b) An urn contains 9 red, 7 white and 4 black balls. A ball is drawn at random. Find the probability that the ball drawn is—

(i) red;

(ii) red or black;

(iii) white or black;

(iv) not black.

$1 \times 4 = 4$

12. (a) List out the general rules for drawing a diagram. 2

(b) Explain simple bar diagram with suitable illustrations. 2

(c) Define time series data and cross-sectional data. State the differences between them. $2+2=4$

(d) State the difference between questionnaire and schedule. 2

★ ★ ★