2024

(FYUGP)

(3rd Semester)

ECONOMICS

(Major)

Paper Code : EC3.CC6

(Statistical Methods for Economics)

Full Marks : 75
Pass Marks : 40%

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **one** question from each Unit

UNIT—I

1. *(a)* Define statistics in singular sense. Explain the importance of statistics at present scenario. 2+6=8

(b) What are the sources of secondary data? 7

2. *(a)* Define primary data. What are the essential characteristics of a good questionnaire? 2+7=9

(b) State the advantages of interview method of collecting data. 6

UNIT—II

3. *(a)* Explain the non-probability sampling methods. 12

(b) State the limitations of sample method. 3

4. *(a)* What is a non-sampling error? Mention some means for controlling non-sampling errors. 3+4=7

(b) Explain random sampling and stratified sampling with their merits and demerits. 8

UNIT—III

5. *(a)* Calculate arithmetic mean by assumed mean method for the following data : 8

Marks	*Number of students*
10–20	1
20–30	2
30–40	3
40–50	5
50–60	7
60–70	12
70–80	16
80–90	10
90–100	4

(b) Compute the quartile deviation from the following : 7

Marks	*Number of students*
30–35	14
35–40	16
40–45	18
45–50	23
50–55	18
55–60	8
60–65	3

6. (a) Calculate mode for the following data by using grouping method : 7

Marks	*Number of students*
10	8
15	12
20	36
25	35
30	28
35	18
40	9

(b) Calculate coefficient of variation from the following data : 8

Marks	*Number of students*
0–10	5
10–20	14
20–30	28
30–40	60
40–50	82
50–60	92
60–70	98
70–80	100

UNIT—IV

7. (a) Write notes on the following : 3×2=6

(i) Dependent and independent events

(ii) Conditional probability

(b) State the classical approach to probability. 4

(c) A bag contains 4 black, 5 red and 6 white balls. Three balls are drawn at a time. What is the probability of getting one black, one red and one white ball? 5

8. *(a)* Explain Bayes' theorem. 4

(b) An urn contains 8 red, 3 white and 9 black balls. If three balls are drawn at random, determine the probability of an event that—

(i) all three balls are red;

(ii) all three balls are white;

(iii) two are red and one is black.

3+3+3=9

(c) A card is drawn at random from a full pack of cards. What is the chance that it is either a 'diamond' or a 'king'? 2

UNIT—V

9. *(a)* What is time series? Explain the utility of time series analysis. 2+8=10

(b) Fit a trend line by the method of semi-averages for the given data : 5

Year	2010	2011	2012	2013	2014	2015	2016	2017
Sales	15	11	20	10	15	25	35	30

10. *(a)* Explain the importance and limitations of index number. 10