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

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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

(b) Construct cost of living index using family budget method : 5

	Quantity in 2007 (in units)	Price per unit	
		2007	2017
A	100	8	12
B	25	6	7·50
C	10	5	5·25
D	20	48	60
E	25	15	16·50
F	30	9	27

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