TDC (CBCS) Odd Semester Exam., 2022

ECONOMICS

(3rd Semester)

Course No. : ECOSEC-301T

(Data Analysis)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *three* of the following questions : 1×3=3

(a) Define primary data.

(b) What is sampling method of collection of data?

(c) What is purposive sampling?

(d) Mention one demerit of census method.

2. Answer any *one* of the following questions : 2

(a) Define simple random sampling with replacement (SRSWR).

(b) Mention two merits of sample survey.

3. Answer any *one* of the following questions : 5

(a) Distinguish between census method and sampling method of collection of data.

(b) Write the features of a good questionnaire.

UNIT—II

4. Answer any *three* of the following questions : 1×3=3

(a) Define the measures of central tendency.

(b) Mention one merit of arithmetic mean.

(c) Define Karl Pearson's correlation coefficient.

(d) Mention one relative measure of dispersion.

5. Answer any *one* of the following questions : 2

(a) Distinguish between correlation and regression.

(b) Mention two properties of Karl Pearson's correlation coefficient.

6. Answer any *one* of the following questions : 5

(a) Prove that AM ≥ GM ≥ HM.

(b) Find the median of the data given below :

Class :	15–25	25–35	35–45	45–55	55–65	65–75
Frequency :	4	11	19	14	0	2

UNIT—III

7. Answer any *three* of the following questions : 1×3=3

(a) Define probability.

(b) What is mutually exclusive event?

(c) Define independent event.

(d) Define discrete random variable.

8. Answer any *one* of the following questions : 2

(a) Mention two limitations of classical definition of probability.

(b) Write the addition theorem of probability in case of mutually exclusive events.

9. Answer any *one* of the following questions : 5

(a) Two cards are drawn at random from a full pack of 52 cards. Find the probability that *(i)* both are red cards and *(ii)* one is a heart and the other is a diamond.

(b) State and prove multiplicative theorem of probability.

UNIT—IV

10. Answer any *three* of the following questions : 1×3=3

(a) What is called a parameter?

(b) Mention one component of time series data.

(c) Define a statistic.

(d) What is standard error?

11. Answer any *one* of the following questions : 2

(a) What is secular trend in time series?

(b) Define confidence interval.

12. Answer any *one* of the following questions : 5

(a) Calculate 3-yearly moving average of the following :

Year	*Production* (1000 times)
1968	21
1969	22
1970	23
1971	25
1972	24
1973	22
1974	25
1975	26
1976	27
1977	26

(b) Distinguish between parameter and statistic with examples.

UNIT—V

13. Answer any *three* of the following questions : 1×3=3

(a) Define price index number.

(b) Give the Laspeyres' price index formula.

(c) What is the base year in price index number?

(d) Mention one relative method of construction of index number.

14. Answer any *one* of the following questions : 2

(a) Mention two uses of index number.

(b) Why is Fisher's index called an 'ideal index' number?

15. Answer any *one* of the following questions : 5

(a) Discuss the various steps and problems involved in the construction of index numbers.

(b) Show that Laspeyres' formula does not obey both time-reversal and factor-reversal tests of index numbers.

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