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(2nd Semester)

ECONOMICS

(Honours)

Paper No. : ECO-202

[Quantitative Technique—II (Statistics)]

Full Marks : 70

Pass Marks : 45%

Time : 3 hours

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

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. (a) Define statistics. Discuss the use of statistics in economics. 2+6=8
(b) Distinguish between census and sampling methods of collecting data. 3+3=6
2. (a) Describe various types of graph used in presentation of data. 6

- 1 (b) Draw a bar diagram to represent the following figures relating to manufacturing of fans : 8

Years : 1984 1985 1986 1987 1988

No. of fans : 1200 1700 1900 2800 2100

UNIT—II

3. (a) Write the merits and demerits of mean deviations. $2+2=4$
- (b) Define mode and calculate the values of mode from the following distribution : $2+8=10$

<i>Class interval</i>	<i>Frequency</i>
10-20	4
20-30	6
30-40	5
40-50	10
50-60	20
60-70	22
70-80	24
80-90	6
90-100	2
100-110	1

4. (a) The following data relate to the age-group of government employees :

<i>Age</i>	<i>No. of employees</i>
50-55	25
45-50	30
40-45	40
35-40	45
30-35	80
25-30	110
20-25	170

Calculate standard deviation. 8

- (b) Calculate coefficient of range from the following data : 6

<i>Weekly wages (₹)</i>	<i>No. of labourers</i>
50-60	50
60-70	45
70-80	45
80-90	40
90-100	35
100-110	30
110-120	30

UNIT—III

5. (a) Distinguish between positive correlation and negative correlation. 2+2=4
- (b) Ten competitors in a beauty contest were ranked by three judges in the following order :
- 1st judge : 1, 6, 5, 10, 3, 2, 4, 9, 7, 8
 2nd judge : 3, 5, 8, 4, 7, 10, 2, 1, 6, 9
 3rd judge : 6, 4, 9, 8, 1, 2, 3, 10, 5, 7
- Use the method of rank correlation to determine which pair of judges has the nearest approach to common tastes in beauty. 10
6. (a) Write short notes on the following : 3+3=6
- (i) Regression lines
 (ii) Coefficient of regression
- (b) From the following data, obtain the two regression equations : 4+4=8

<i>Sales</i>	<i>Purchases</i>
91	71
97	75
108	69
121	97
67	70
124	91
51	39
73	61
111	80
57	47

UNIT—IV

7. (a) Describe different methods of measuring seasonal variations. 6
- (b) What is time series? Discuss the limitations of moving average method for determining the trend in the analysis of time series. 2+6=8
8. (a) Explain the main problems which are faced in the construction of index number prices. 6
- (b) From the data given below, construct an index number by chain base method : 8

*Prices of a commodity
from 1975 to 1980*

1975	1976	1977	1978	1979	1980
50	60	62	65	70	78

UNIT—V

9. (a) Define probability and explain the importance of the concept in statistics. -8
2+4=6
- (b) Four cards are drawn at random from a pack. Find the probability that they are a king, a queen, a jack and an ace. -6
8 6

10. (a) Explain the following events : 2+2=4
(i) Mutually exclusive event
(ii) Equally likely event
- (b) Explain the meaning of the term
'mathematical expectation' with the help
of an example. 6+4=10
