2 0 1 8

(2nd Semester)

ECONOMICS

(Honours)

Paper No. : Eco–202

[Quantitative Techniques—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)* Briefly discuss the statistical tools used in economic analysis. 4

   (b) What is statistics? Discuss the various methods of drawing or taking of a sample from population. 2+8=10

2. (a) Draw a frequency polygon of the following distribution of students obtaining marks in an examination : 7

Marks	No. of Students
0–10	7
10–20	12
20–30	15
30–40	18
40–50	10
50–60	20
60–70	14
70–80	8

(b) What are the different techniques of data collection? 7

UNIT—II

3. (a) Calculate the mean and standard deviation for the following data : 5+5=10

No. of defects (per unit)	:	0–5	5–10	10–15	15–20	20–25
Frequency	:	18	12	50	75	125

No. of defects (per unit)	:	25–30	30–35	35–40	40–45	45–50
Frequency	:	150	100	90	80	50

(b) Distinguish between skewness and kurtosis. 4

(Continued)

4. (a) Calculate median of the following distribution : 8

Height	No. of Students
100–110	3
110–120	10
120–130	7
130–140	8
140–150	5
150–160	10
160–170	12

(b) Write notes on the following : 2×3=6

(i) Range

(ii) Coefficient of variation

(iii) Central tendency

UNIT—III

5. (a) Two judges X and Y in a beauty contest ranked 12 contestants as follows :

X :	1	2	3	4	5	6	7	8	9	10	11	12
Y :	12	9	6	10	3	5	4	7	8	2	11	1

Compute rank correlation coefficient. 8

(b) Explain the concept of correlation. What is Karl Pearson's coefficient of correlation? 3+3=6

6. (a) Find the linear regression equation of Y on X for the following data :   8

$$X : \quad 1 \quad 2 \quad 3 \quad 4 \quad 6$$
$$Y : \quad 3 \quad 2 \quad 5 \quad 4 \quad 6$$

(b) Explain briefly the method of least squares.   6

UNIT—IV

7. (a) Explain the concept and components of time series.   3+4=7

(b) What are the problems in the construction of index numbers?   7

8. (a) The following are the prices and quantities of 3 commodities in the years 1985 and 1990. Calculate the price index number for the year 1990 by taking 1985 as the base year using—

(i) Laspeyre's method;

(ii) Fisher's method :   8

	1985		1990	
Commodity	Price	Quantity	Price	Quantity
A	4	50	10	40
B	3	10	4	2
C	2	5	4	2

(b) What is a time series? What is the purpose of time series analysis?   3+3=6

UNIT—V

9. (a) Define probability. Explain the basic theories of probability.　　　2+6=8

(b) Define the following :　　　2×3=6

(i) Event

(ii) Mutually exclusive event

(iii) Exhaustive event

10. (a) A bag contains 7 white and 9 black balls. Two balls are drawn in succession at random. What is the probability that one of them is white and the other is black?　　　6

(b) A candidate is selected for interview of managerial trainees for 3 companies. For the first company there are 12 candidates, for the second there are 15 candidates and for the third there are 10 candidates. What is the chance of getting selected in at least one of the companies?　　　8

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