

2023

(2nd Semester)

ECONOMICS

(Honours)

Paper : Eco-202

[Quantitative Technique—II (Statistics)]

(New Course)

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. Write a note on the diagrammatic representation of data. 2+5=7
- (b) From the data given below, construct a histogram :

Class	Frequency
10-20	4
20-30	6
30-40	5

L23/542

(Turn Over)

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

2. (a) What are the various sampling techniques? Explain. 6
- (b) Represent the given data with a frequency polygon and also draw a frequency curve of the same data : 8

<i>Mark</i>	<i>Student</i>
0-10	4
10-20	10
20-30	20
30-40	35
40-50	15
50-60	6

UNIT—II

3. (a) Discuss the merits and demerits of mean, median and mode as measures of central tendency. 2+2+2=6

- (b) Calculate arithmetic mean by step-deviation method from the following data :

8

Mark	Frequency
0-10	5
10-20	15
20-30	32
30-40	42
40-50	15
50-60	12

4. (a) Define arithmetic mean. Calculate the median of the following distribution : $2+6=8$

Mark	No. of Students
0-10	3
10-20	10
20-30	17
30-40	7
40-50	6
50-60	4
60-70	2
70-80	1

- (b) Calculate the values of mode from the following data :

6

Class Interval	Frequency
10-20	4
20-30	6
30-40	5

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

UNIT—III

5. (a) Define the following :

2×3=6

(i) Coefficient of variation

(ii) Skewness

(iii) Kurtosis

(b) Find standard deviation from the following data :

8

<i>Age</i>	<i>No. of Persons</i>
0-10	10
10-20	10
20-30	25
30-40	22
40-50	27
50-60	8
60-70	4
70-80	8

6. (a) Define range. Calculate the range and its coefficient from the following data : $2+6=8$

<i>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

- (b) Calculate mean deviation and coefficient of mean deviation from the following data :

<i>Class Interval</i>	<i>Frequency</i>
0-10	5
10-20	8
20-30	12
30-40	15
40-50	20
50-60	14
60-70	12
70-80	6

UNIT--IV

7. (a) Discuss the main problems faced in the construction of index numbers.

LS/542

(Turn Over)

- (b) Fit a straight line trend by the method of least square and tabulate the trend values for the following :

8

<i>Year</i>	<i>Production</i> (in '000 pounds)
2000	40
2001	45
2002	46
2003	42
2004	47
2005	50
2006	56

8. (a) Discuss the various methods of measuring the trend of a time series.

6

- (b) Construct consumer price index for the year 2010 on the basis of 2009 from the following data :

8

<i>Commodity</i>	<i>Quantity Consumed</i> (in 2009)	<i>Price</i> (in 2009)	<i>Price</i> (in 2010)
<i>A</i>	10	9.75	10
<i>B</i>	10	9	12
<i>C</i>	5	10	13
<i>D</i>	10	12	14
<i>E</i>	8	6	5.5
<i>F</i>	5	24	19

UNIT—V

9. (a) Define correlation and regression analysis.
Discuss their uses in economics. 3+3=6
- (b) Calculate Karl Pearson's coefficient of correlation between price and supply of a commodity from the following data : 8

Price (in ₹)	Supply (in kg)
20	41
21	40
22	41
23	36
24	35
25	36
26	37
27	32
28	29
29	26

10. (a) From the data given below, obtain the two regression equations using the method of least squares : 7

X	Y
2	6
4	8
6	10
8	9
10	12

- (b) Calculate the coefficient of rank correlation from the following data : 7

X	Y
25	10
30	10
15	11
45	14
75	15
80	13
55	10
45	12
35	14
40	11
