

**2 0 2 1**

( 2nd Semester )

ECONOMICS

( Honours )

Paper : ECO-202

**( Quantitative Technique—II )**

( 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) Describe the various types of graphs used in the representation of data. 7

- (b) Draw a frequency curve for the data given below : 7

<i>Class Interval</i>	<i>Frequency</i>
25-35	7
35-45	9
45-55	22
55-65	7
65-75	3
75-85	2

2. (a) Distinguish between the Census and Sampling methods of collecting data. 3+3=6

- (b) Draw less than ogive and more than ogive curves for the following data : 8

<i>Class Interval</i>	<i>Frequency</i>
25-30	3
30-35	4
35-40	4
40-45	5
45-50	15
50-55	7
55-60	3
60-65	4
65-70	2
70-75	1

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UNIT—II

3. (a) Define mode. What are the merits and demerits of mode? 1+4=5
- (b) Find  $Q_1$ ,  $Q_2$  and  $Q_3$  for the following data : 3+3+3=9

<i>Wages</i>	<i>No. of Workers</i>
0-500	50
500-1000	72
1000-1500	104
1500-2000	120
2000-2500	96
2500-3000	53
3000-3500	42
3500-4000	46

4. (a) Calculate arithmetic mean for the following data using both the direct method and the indirect method (shortcut method) : 5+5=10

<i>Class Interval</i>	<i>Frequency</i>
0-10	12
10-20	15
20-30	28
30-40	25
40-50	20

- (b) Write a short note on the different types of averages. 4

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UNIT—III

5. (a) Define the following : 2+2=4
- (i) Variance
- (ii) Coefficient of variation
- (b) Calculate the mean deviation from the median and also find its coefficient from the given data : 10

<i>Age</i>	<i>No. of Persons</i>
15-25	150
25-35	325
35-45	200
45-55	125

6. (a) Define mean deviation. What are its merits and demerits? 4
- (b) Find standard deviation and coefficient of variation for the following data : 10

<i>Class Interval</i>	<i>Frequency</i>
5-15	3
15-25	7
25-35	9
35-45	23
45-55	15
55-65	8
65-75	6
75-85	4

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UNIT—IV

7. (a) Write short notes on the following : 3+3=6

- (i) Consumer price index number
- (ii) Fisher's ideal index number

(b) Using the method of semi-averages, fit a trend line for the following data : 8

Year	1980	1981	1982	1983	1984	1985	1986	1987
Output	380	400	650	720	690	600	870	930

8. (a) What are the four major types of variations or components of a time series? 4

(b) From the given data—

- (i) calculate Laspeyres' index number;
- (ii) construct the cost of living index number using the family budget method :

Article	Quantity	Prices	
	(2010)	(2010)	(2015)
Food	3	12	18
Cloth	12	1	0.90
Electricity	40	0.20	0.25
Rent	3	25	23
Miscellaneous	34	0.40	0.50

5+5=10

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UNIT—V

9. (a) Calculate Karl Pearson's coefficient of correlation from the following data : 8

Price (in ₹)	Supply (in kg)
16	37
17	36
18	37
19	32
20	31
21	32
22	33
23	28
24	25
25	22

(b) Define the following : 2+2+2=6

- (i) Coefficient of regression
- (ii) Line of best fit
- (iii) Spearman's rank correlation

10. (a) Obtain the two regression equations using the method of least squares from the data given below : 8

X	2	4	6	8	10
Y	5	7	9	8	11

(b) What are correlation and regression analysis? Explain their use in Economics. 3+3=6

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