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(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)* Distinguish between primary and secondary data. Briefly explain the methods of collecting primary data. 2+4=6

(Turn Over)

(b) Following figures give the ages of 8 newly married couples. Represent the data by a bivariate frequency distribution : 8

Age of husband	Age of wife
31	26
35	25
33	27
30	30
32	29
31	28
35	25
34	27

2. (a) Discuss the various types of graph used in presentation of data. 6

(b) Construct a pie diagram to represent the following data about percentage break-up of the cost of construction of a house : 8

Item	Expdt.
Labour	25%
Bricks	15%
Cement	20%
Steel	15%
Timber	5%
Supervision	20%
	100%

UNIT—II

3. (a) Why is an average referred to as a measure of central tendency? Briefly discuss the main objectives of the study of averages. 2+4=6

(b) Following table gives the wages paid to 125 workers in a factory. Calculate the average wage by assumed mean method and by step deviation method : 8

Wages (₹) :	240	250	260	270	280	290	300
Workers :	5	15	32	42	15	12	4

4. (a) Differentiate among mean, median and mode. 2+2+2=6

(b) From the following data of weight of 122 persons, determine the modal weight : 8

Weights (in lbs)	No. of persons
100–110	4
110–120	6
120–130	20
130–140	32
140–150	33
150–160	17
160–170	8
170–180	2

UNIT—III

5. (a) Write short notes on the following :

2+2+2=6

(i) Range

(ii) Quartile deviation

(iii) Mean deviation

(b) Compute quartile deviation and its coefficient from the following data : 8

Ages (in yrs)	No. of persons
10–20	12
20–30	19
30–40	5
40–60	10
60–70	9
70–80	6

6. (a) Write short notes on the following :

2+2+2=6

(i) Standard deviation

(ii) Skewness

(iii) Kurtosis

(b) Calculate coefficient of variance from the following data : 8

Marks (less than) :	10	20	30	40	50
No. of students :	5	9	14	2	20

(Continued)

UNIT—IV

7. (a) What is time series? Discuss the importance of time series. 1+5=6

(b) Fit a trend line by the method of semi-averages to the data given below. Calculate the sales for the year 2022 : 8

Year	Sales (lakh)
2014	412
2015	438
2016	444
2017	454
2018	170
2019	482
2020	490
2021	500

8. (a) What is an index number? Discuss the importance of the uses of index number.

1+5=6

(b) Construct index number of price from the following data by applying any *two* of the given methods : 8

(i) Laspeyres

(ii) Paasche

(*Turn Over*)

(iii) Fisher

Commodity	2020		2021	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

UNIT—V

9. *(a)* Write short notes on the following :

$$2+2+2=6$$

(i) Positive or negative correlation

(ii) Simple, partial and multiple correlation

(iii) Linear and non-linear correlation

(b) The ranking of students in 2 subjects, Economics and English, are as follows :

Economics	English
3	6
5	4
8	9
4	8
7	1
10	2
2	3
1	10
6	5
9	7

What is the coefficient of rank correlation?

8

(Continued)

(7)

10. (a) What are regression lines? Discuss the uses of regression analysis. $1+5=6$

(b) From the given data, calculate the regression equations taking deviation of items from the mean of X and Y series : 8

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

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