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(2nd Semester)

ECONOMICS

(Honours)

Paper : ECO-202

(Quantitative Technique—II)

(Old 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) What is an empirical analysis?
Distinguish between quantitative and qualitative data. 2+2+2=6

- (b) Arrange the following marks in frequency table taking the class interval as (10–20) : 8

30	76	41	52	66	83
42	52	62	72	82	90
36	46	56	66	76	86
39	49	59	69	79	89
31	41	51	61	71	81

2. (a) Define histogram. Discuss the importance of diagrams and graphs. 2+4=6
- (b) Draw 'less than' and 'more than' ogive for the following data : 8

Marks	No. of Students
0–10	4
10–20	4
20–30	7
30–40	10
40–50	12
50–60	8
60–70	5

(3)

UNIT—II

3. (a) What are the important types of averages? Explain the two main objectives of the study of average.
2+2+2=6
- (b) Find out the mean of the following distribution : 8
- Marks : 0-4 4-8 8-12 12-16
No. of Students : 4 8 2 1
4. (a) Write the steps for the calculation of mean deviation (MD) under individual series, discrete series and continuous series.
2+2+2=6
- (b) Calculate the coefficient of variance from the following data : 8
- Marks (less than) : 10 20 30 40 50 60 70 80
No. of Students : 5 14 28 60 82 92 98 100

UNIT—III

5. (a) What is correlation? Explain the various kinds of correlation.
2+5=7

(4)

- (b) The following pairs of value of variables X and Y give the age and height of 12 children. Draw a scatter diagram and interpret the result : 7

Age	Height (in inches)
4	78
5	72
6	66
7	60
8	54
9	48
10	42
11	36
12	30
13	24
14	18
15	12

6. (a) What are regression lines? Why is it necessary to consider two lines of regression?
2+4=6
- (b) Calculate the regression equations of the following data : 8
- X : 1 2 3 4 5 6 7 8 9
Y : 9 8 10 12 11 13 14 16 18

(5)

UNIT—IV

7. (a) What is a time series? Discuss the various components of time series. 2+5=7

- (b) Fit a trend line to the following data by the method of semi-averages : 7

Year	:	2000	2001	2002	2003	2004	2005	2006
Sales (in '000)	:	102	105	114	110	108	116	112

8. (a) What is an index number? Discuss the problems involved in the construction of index number. 2+5=7

- (b) From the given data, calculate the index number by taking 2009 to 2011 as the base period : 7

Year	:	2009	2010	2011	2012	2013	2014	2015	2016
Price	:	4	5	6	7	8	9	10	11

UNIT—V

9. (a) Define probability. State the importance of the concept of probability. 2+4=6

- (b) Kevi is known to hit the target in 3 out of 4 shots, whereas Shinnyu is known to hit the target in 2 out of 3 shots. Find the probability of the target being hit at all when they both try. 8

(6)

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

- (i) Conditional probability
(ii) Mathematical expectation

- (b) There are three alternative proposals for Bokato to start a new project :

Proposal A :

Profit of ₹ 5 lakhs with a probability of 0.6 or a loss of ₹ 80,000 with a probability of 0.4

Proposal B :

Profit of ₹ 10 lakhs with a probability of 0.4 or a loss of ₹ 2 lakhs with a probability of 0.6

Proposal C :

Profit of ₹ 4.5 lakhs with a probability of 0.8 or a loss of ₹ 50,000 with a probability of 0.2

If he wants to maximize the profit and minimize the loss, which proposal should he prefer? 8

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