

NOTE: i) All questions are compulsory.

ii) In Q.1, attempt both the sub-parts A and B.

iii) Figures to the right indicate marks.

iv) Use of non-programmable calculator is allowed.

v) Graph paper will be provided on request.



Q 1) A. Fill in the blanks with correct alternative. (Attempt any Eight)

[8]

- a. The data which is collected by first hand source is known as _____.
(Information, secondary data, Primary data)
- b. The graphical representation of data joining the points by using a smooth curve is called as _____.
(Histogram, frequency polygon, frequency curve)
- c. The difference between upper and lower limit is known as _____.
(median, decile, class width, class mark)
- d. If the value of coefficient of variation is more then the consistency of data is _____.
(more, less, equal)
- e. If coefficient of correlation between x and y is less than 0 then there is _____ correlation.
(positive, negative, none)
- f. The geometric mean of laspeyre's and paasche's index number is _____ index number.
(seasonal, price, fisher's)
- g. The probability of an event is _____ one.
(less than, greater than, equal to)
- h. The subset of a sample space is called as _____.
(event, probability, element)
- i. EOL stands for _____.
a) Equated Opportunity Loss
b) Equal Opportunity Loss
c) Equal Organizational Logistics
- j. In decision theory, regret table is obtained by subtracting _____ pay-off of table from all values of given pay-off table.
(highest, lowest, none)

Q 1) B. State whether the following statements are True or False. (any seven)

[7]

- a) The difference of upper and lower quartiles is range.
- b) Journal is an example of primary data.
- c) Standard deviation is rigidly defined.
- d) Correlation coefficient always greater than 1.
- e) The probability of an impossible event is one.
- f) Statistical gives an accurate result.
- g) The process of rearrangement is called as permutation.
- h) Laplace criterion is same as fisher's index.
- i) Kelly's index number is square root of laspeyre's index number.
- j) EMV is monetary value.

Q 2) A.

i. Calculate median and mode for the following data :

[8]

Class	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	6	8	4	1	9	2

ii. Draw the less than ogive curve and also locate median for the following marks distribution :

[7]

Marks	0-20	20-40	40-60	60-80	80-100	100-120
No. of students	4	8	9	10	6	1

[OR]

Q 2) B.

i. Draw the frequency curve and histogram for the following data :

[8]

Units	0-10	10-20	20-30	30-40	40-50	50-60
No. of consumers	8	2	6	4	3	5

ii. Find the missing frequency if the mean is 21.9. And also find median.

[7]

Class	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	2	5	---	13	21	16	8	3

Q 3) A.

i. Calculate the quartile deviation and coefficient of Q.D. for the following data:

[8]

Age	20-25	25-30	30-35	35-40	40-45	45-50	50-55
No. of employees	2	5	9	5	4	4	3

ii. Calculate spearman's coefficient of correlation for the following distribution:

[7]

X	20	15	11	8	10	12
Y	10	40	20	25	35	22

[OR]

Q 3) B.

i. Find regression equation of y on x for the following data and hence estimate y when x = 12

[8]

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

ii. Calculate Karl Pearson's coefficient of correlation for the following data :

[7]

X	39	65	62	90	82	75
Y	47	53	58	86	62	68

Q. 4. A.

i. Given the following probability distribution:

X	1	2	3	4	5	6
P(X=x)	0.10	0.15	0.20	0.25	0.20	0.10

Find (i) $p[X > 2]$, (ii) $p[x \text{ is even}]$, (iii) $E(X)$.

[7]

ii. Calculate real income for the following data:

[8]

Year	1996	1997	1998	1999	2000
Prices	30	10	10	20	25
income Rs.	80	81	82	87	92

OR



Q.4.B.

i. Mr. Vishwas Kumar had a policy of Rs. 8,00,000. After paying 6 annual premium at the rate of Rs. 30.12 per thousand, he surrendered the policy. The insurance company granted him a surrender value of 35% of the premium paid, excluding the first year's premium. Find the surrender value that he will receive. [7]

ii. Calculate the Fisher's index number for the following data :

[8]

Commodity	Base year 2007		Current year 2008	
	Price	Quantity	Price	Quantity
A	3	8	6	9
B	5	9	8	10
C	6	15	7	12
D	4	20	5	15

Q. 5.

A. What is quartile deviation? State its merits and demerits. [7]

B. Explain paid up and surrender value in insurance. [8]

OR

C. Write short notes on : (Any 3)

[15]

1. Different types of ogives
2. Features of statistics
3. Interquartile range
4. EMV and EOL
5. Regression analysis.