

Q1. A) Mark the correct alternative in each one of the following. (Any 8) (8)

1. The function $f(x)=14$ is of the following type.
a. Linear b. Quadratic c. Constant d. None of these
2. For the function $f(x)=4x^2-3x+1$, its value at $x=1$ is
a. 0 b. 1 c. 2 d. 8
3. If the of annuity are made at the beginning of each period, the annuity is called
a. Annuity one b. cuneiform annuity c. Immediate annuity d. None of these
4. The difference between simple and compound interest on an amount at $r\%$ p.a. after one year is.
a. Zero b. one c. 100 d. None of these
5. In a survey, the data is collected in a.
a. Random Manner b. Systematic manner c. Haphazard manner d. None of these
6. Statics is used in
a. Business b. agriculture c. Medicines d. All of these
7. The classification of workers according to sex, type and age is
a. Three - way b. Two - Way c. One way d. None of these
8. If the data is about heights of a 50 student, it can be represent using
a. Tabulation b. Frequency Distribution c. Pie Diagram d. None of these
9. If there are extreme values present in the data, the following measure is suitable.
a. Median b. Arithmetic Mean c. Both A&B d. None of these
10. The suitable measure of dispersion to indicate extreme variations in the data is
a. Range b. Mean Deviation c. Both A&B d. None of these

Q1. B) Match the following (Any 7) (7)

- | | |
|----------------------------|---|
| 1. Marshall Edge worth | a. $\frac{A}{(1+i)^n}$ |
| 2. Accumulated Value | b. $\frac{\text{annuity amt} \cdot [(1+i)^n - 1]}{i}$ |
| 3. Present Value | c. $cx \left[\frac{(1+i)^n - 1}{i} \right]$ |
| 4. Sinking Fund | d. IME |
| 5. Frequency Density | e. $\frac{\Sigma x}{n}$ |
| 6. One dimensional diagram | f. Cumulative frequency |
| 7. \bar{x} | g. $\frac{\text{Frequency}}{\text{Length of class}}$ |
| 8. cf | h. $p(1-i)^n$ |
| 9. Depreciated value | i. $\frac{Q3-Q1}{2}$ |
| 10. Quantitative Deviation | j. Bar Diagram |

Q.2. A) A function f is given by $f(x) = x^3 = 4x - 3$. Find $f(-2)$, $f(2)$, $f(4)$, $f(1)$, $f(a)$. (8)

B. The demand for a commodity is given by $p = 7 - D$ and the supply is given by $p = 3 + 3D$. Find the equilibrium price and quantity. (7)

OR

C. Find the compound interest on Rs. 20,000 for 3 years at 10 % p.a. Also find the amount after 3 years. (8)

D. A particular sum of money amounts to Rs. 55,125 in 2 years and Rs. 57,881.25 in 3 years. Find the sum and the compound interest rate. (7)

Q.3) A) From the following data find class width, class mark, relative frequency and percentage frequency. (8)

Class interval	50-60	60-70	70-80	80-90	90-100
Frequency	7	12	15	8	4

B) Draw Histogram of the following frequency distribution. (7)

Class interval	10-14	15-19	20-24	25-29	30-34
Frequency	2	6	7	5	4

OR

C) Represent the following data by a subdivided Bar diagram (15)

Items	Family A (in Rs. 100)	Family B (in Rs. 100)
Food	200	250
Clothing	100	200
Fuel	80	100
House Rent	30	40
Others	90	210

Q. 4) A) Calculate the Quartile deviation and co-efficient of quartile deviation for the following data. (8)

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	3	7	15	12	8	5

B) The ages of 40 students are given in the following table (7)

Age	13	15	12	14	16	17	18
Frequency	4	9	2	6	8	7	4

OR

C) For the following data calculate

(1) Laspeyre's

(2) Paasche's

(3) Fisher's

(4) Dorbish Bowley

(5) Marshall Edgeworth

(15)

Commodity	Base year		Current year	
	Price	Qty	Price	Qty
A	4	10	5	12
B	3	8	6	10
C	2	8	3	9
D	5	4	8	5

Q5) A) Explain special index numbers used in practice.

(8)

B) Explain what is statistics and its uses.

(7)

OR

C) Short notes . Any 3

(15)

1) Limitations of statistics.

2) Statistical methods

3) Methods of constructing index numbers

4) Types of index numbers

5) Problems of construction of index numbers