

1. Calculate the mean, variance and standard deviation for the following distribution:

Class	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	7	12	15	8	3	2

2. The diameters of circles (in mm) drawn in a design are given below:

Diameters	33-36	37-40	41-44	45-48	49-52
No.of Circles	15	17	21	22	25

Calculate the standard deviation and mean diameter of the circles.

3. Co-efficient of variation of two distributions are 60 and 70 and their standard deviations are 21 and 16 respectively. What are their arithmetic means.

4. From the prices of shares X and Y below, find out which is more stable in value:

X	35	54	52	53	56	58	52	50	51	49
Y	108	107	105	105	106	107	104	103	104	101

5. The sum and sum of squares corresponding to length x (in cm) and weight y(in gm) of 50 plant products are given below.

$$\sum_{i=1}^{50} x_i = 212, \sum_{i=1}^{50} x_i^2 = 902.8, \sum_{i=1}^{50} y_i = 261, \sum_{i=1}^{50} y_i^2 = 1457.6$$

Which is more varying, the length or weight?

I. Answer the following questions:

1. Define Average Revenue (1)
2. What happens to TR when MR is positive? (1)
 - a) TR increases
 - b) TR decreases
 - c) TR is maximum
 - d) TR remains same
3. What changes should take place in total revenue so that:
 - i) Marginal revenue is positive and constant and ii) Marginal revenue is positive and falling. (3)
4. Draw average revenue and marginal revenue curves in a single diagram of a firm which can sell any quantity of the good at a given price. Explain. (4)
5. a) Complete the following table: (4)

Price (₹)	Output (units)	TR (₹)	MR (₹)
-	1	6	-
4	-	-	2
-	3	6	-
1	-	-	-2

(OR)

- b) What is mean by Break-Even points and when it is achieved?
6. Briefly discuss the shapes of TR, AR and MR curves with the help of an imaginary schedule and diagram (when price remains same).(6)
7. a) Compute the total revenue, marginal revenue, and average revenue schedules in the following table market price of each unit of the good is ₹10 (6)

Quantity sold	TR	MR	AR
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-

(OR)

- b) What is the relationship between TR and MR (when price falls with rise in output?)