





Run Scored	Number of Bataman
3000-4000	4
4000-5000	18
5000-6000	9
6000-7000	7
7000-8000	6
8000-9000	3
9000-10000	1
10000-11000	1

Calculate the mode of the above distribution.

4. Calculate the median marks of students from the following distribution. (3)

Marks	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Number of Students	7	10	10	20	20	15	8

5. Differentiate  $x^x$  with respect to  $x$ .

(3)

6. differentiate

(3)

$$h(x) = \frac{4x^3 - 7x + 8}{x}$$

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OR

differentiate

(3)

$$g(y) = (y - 4)(2y + y^2)$$

7. Given the following data on monthly sales. Compute and plot a 3-month moving average against monthly sales. (5)

Month	Sales
Jan	125
Feb	145
Mar	186
Apr	131
May	151
Jun	192
Jul	137
Aug	157
Sep	198
Oct	143
Nov	163
Dec	204

8. Test scores of English and maths are given below. Compute Spearman's Rank correlation coefficient. (5)

English	Maths	Rank-Eng	Rank-Math
56	66	9	4
75	70	3	2
45	40	10	10
71	60	4	7
61	65	6.5	5
64	56	5	9
58	59	8	8
80	77	1	1
76	67	2	3
61	63	6.5	6

9. The two regression lines involving the two variables  $x$  and  $y$  are  $Y = 5.6 + 1.2x$  and  $X = 12.5 + 0.6y$ . Find their *Correlation Coefficient*. (5)

5

10. explain: mean deviation about mean is zero. state the assumptions. (5)
11. Compare and contrast Fisher's Ideal Index with Laspeyre's and Paache's Index. (5)
12. Calculate the standard deviation of the following values: (5)
- 5, 10, 25, 30, 50.

OR

(5)

Given the following frequency distribution, draw a histogram and frequency polygon.

Class Boundary	Frequency
10-20	3
20-30	7
30-40	4
40-50	4
50-60	2

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