

Assignment-1

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1 2017-ICSE-10th Board Question Paper : 8(a)

Question 8

(a) Calculate the mean of the following distribution using step deviation method.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Number of Students	10	9	25	30	16	10

Table 1: Given Table

Solution :

Here, In the Assignment-1-Solution-Table :

Assumed mean : $A = 25$

Mid - value : x

class - size : i

$$t = \frac{(x - A)}{i}$$

From the Solution Table :

$$\sum f = 100$$

$$\sum fx = 63$$

Class-Interval (Marks)	Mid-value (x)	No of Students (f)	t	ft
0-10	5	10	-2	-20
10-20	15	9	-1	-9
20-30	25	25	0	0
30-40	35	30	1	30
40-50	45	16	2	32
50-60	55	10	3	30
		$\sum f = 100$		$\sum fx = 63$

Table 2: Solution Table

$$\begin{aligned} \text{Mean} &= A + \frac{\sum fx}{\sum f} * i \\ &= 25 + \frac{63}{100} * 10 \\ &= 25 + 6.3 \\ &= 31.3 \end{aligned}$$

Hence , Mean of given data is 31.3