Exercise 14H

Question 4:
Arranging the given data in ascending order , we have:
9, 19, 27, 28, 30, 32, 35, 50, 50, 50, 50, 60
The frequency table of the data is :

Observations(x)	9	19	27	28	30	32	35	50	60
Frequency	1	1	1	1	1	1	1	4	1

As 50, ocurs the maximum number of times i.e. 4, mode = 50
Thus, the modal score of the cricket player is 50.

Question 5:
Arranging the given data in ascending order , we have:
10, 10, 11, 11, 12, 12, 13, 14, 15, 17
We may prepare the table, given below:

Item(x)	Frequency(f)	Cumulative Frequency	f x
10	2	2	20
11	2	4	22
12	2	6	24
13	1	7	13
14	1	8	14
15	1	9	15
17	1	10	17
	N=10		Σ f×x =125

Here, $N = 10$ which is even

$$\therefore \text{median} = \frac{1}{2}\left[\left[\left(\frac{n}{2}\right)\right]\text{th term} + \left(\frac{n}{2}+1\right)\text{th term}\right]$$

$$= \frac{1}{2}\left[(5\text{th term} + 6\text{th term})\right][\because n = 10]$$

$$= \frac{1}{2}(12+12)$$

$$= 12$$

Now, $\sum f \times x = 125$ and $f = 10$

$$\therefore \quad \text{mean} = \frac{\sum f \times x}{\sum f} = \frac{125}{10} = 12.5$$

$$\text{Mode} = 3(\text{Median}) - 2(\text{Mean})$$

$$= 3(12) - 2(12.5)$$

$$= 36 - 25 = 11$$

Thus, Mode = 11

********** END **********