PRACTICE QUESTIONS:
STATS ASSIGNMENT-1

Q-1 find the mean-

(a)

Range	frequency
1-10	2
11-20	7
21-30	10
31-40	3
41-50	1

Sol

X	V	m	mf
0.5 - 10.5	2	5.5	11
10.5 - 20.5	7	15.5	108.5
20.5 - 30.5	10	25.5	255
30.5 - 40.5	3	35.5	106.5
40.5 - 50.5	1	45.5	45.5
	N = 23		526.5

$$\bar{X} = \frac{\Sigma mf}{N} = 22.89$$

$\bar{X} = 22.89$ Ans

(6)

Range	frequency
0-10	2
10-20	7
20-30	15
30-40	10
40-50	11
50-60	5

Sol.

X	f	m	mf
0-10	2	5	10
10-20	7	15	105
20-30	15	25	375
30-40	10	35	350
40-50	11	45	495
50-60	5	55	275
	N=50		1610

$$\bar{X} = \frac{\Sigma mf}{N} = \frac{1610}{50} = 32.2.$$

$\boxed{\bar{X} = 32.2}$ Ans.

(c)

Exam. Score	No. of students
51-60	4
61-70	8
71-80	15
81-90	8
91-100	5

Sl.	X	f	m	mf
	50.5-60.5	4	55.5	222
	60.5-70.5	8	65.5	524
	70.5-80.5	15	75.5	1132.5
	80.5-90.5	8	85.5	684
	90.5-100.5	5	95.5	477.5
		N=40		3040

$$\bar{X} = \frac{\Sigma mf}{N} = \frac{3040}{40} = 76$$

$\bar{X} = 76$ Ans.

Q-2 find ---------- data.

Sol. Given, $\bar{x}_1 = 75$, $\bar{x}_2 = 60$

$N_1 = 1000$, $N_2 = 1500$

$\bar{x}_{12} = ?$

$$\therefore \bar{x}_{12} = \frac{\bar{x}_1 N_1 + \bar{x}_2 N_2}{N_1 + N_2}$$

$$\bar{x}_{12} = \frac{75 \times 1000 + 60 \times 1500}{1000 + 1500}$$

$$= \frac{75000 + 90000}{2500}$$

$$= \frac{165000}{2500} = 66$$

$\boxed{\bar{x}_{12} = 66}$ Ans.

Q-3. Compute ---------- groups.

Sol. Given = $\bar{x}_1 = 113$, $\bar{x}_2 = 120$, $\bar{x}_3 = 115$

$N_1 = 50$, $N_2 = 60$, $N_3 = 90$

$\bar{x}_{123} = ?$

$$\bar{X}_{123} = \frac{50 \times 113 + 60 \times 120 + 90 \times 115}{50 + 60 + 90}$$

$$\therefore \left[\bar{X}_{123} = \frac{\bar{X}_1 N_1 + \bar{X}_2 N_2 + \bar{X}_3 N_3}{N_1 + N_2 + N_3} \right]$$

$$\bar{X}_{123} = \frac{23200}{200} = 116$$

$$\boxed{\bar{X}_{123} = 116} \quad \text{Ans.}$$