Assignment-2

(1)

(a)

Range	f		X	fX
1 – 10	2	0.5 – 10.5	5.5	11
11 – 20	7	10.5 – 20.5	15.5	108.5
21 – 30	10	20.5 – 30.5	25.5	255
31 – 40	3	30.5 – 40.5	35.5	106.5
41 – 50	1	40.5 – 50.5	45.5	45.5
	23			526.5

$$\bar{X} = \frac{\Sigma fX}{\Sigma f} = \frac{526.5}{23} = 22.89 \text{ Ans}$$

(b)

Range	f	X	fX
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
	50		1610

$$\bar{X} = \frac{\Sigma fX}{\Sigma f} = \frac{1610}{50} = 32.2 \text{ Ans}$$

(c.)

Exam score	No. of students		
51 — 60	4		
61 — 70	8		
71 — 80	15		
81 — 90	8		
91 — 100	5		
	40		
		X	fX
50.5 — 60.5		55.5	222
60.5 — 70.5		65.5	524
70.5 — 80.5		75.5	1132.5
80.5 — 90.5		85.5	684
90.5 — 100.5		95.5	477.5
			3040

$$\bar{X} = \frac{\Sigma fX}{\Sigma f} = \frac{3040}{40} = 76 \text{ Ans}$$

(2)		Group 1	Group 2
	Mean wages	75	60
	No. of workers	1000	1500

$$\overline{X}_{12} = \frac{X_1N_1 + X_2N_2}{N_1 + N_2} = \frac{75 \times 1000 + 60 \times 1500}{1000 + 1500} = \frac{75000 + 90000}{2500}$$

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

(3)

Medical examination	No Examined	mean weight (Pounds)
A	50	113
B	60	115 ↖
C	90	↘ 120

$$\overline{X}_{123} = \frac{X_1N_1 + X_2N_2 + X_3N_3}{N_1 + N_2 + N_3} = \frac{113 \times 50 + 120 \times 60 + 115 \times 90}{50 + 60 + 90}$$

$$= \frac{5650 + 7200 + 10350}{200} = \frac{23200}{200} = 116 \text{ Ans}$$