Q3. Calcute mean and mode from following:—

C.I.	frequency (f)	mid value (x)	fx
0-10	10	5	50
10-20	15	15	225
20-30	25	25	625
30-40	30	35	1050
40-50	10	45	450
50-60	5	55	275
60-70	5	65	325
Total	N=100		Σfx = 3000

$$\text{Mean } (\bar{x}) = \frac{\Sigma fx}{N} = \frac{3000}{100}$$

$$= 30$$

Mode.

$f_1 = 30, \quad f_0 = 25, \quad f_2 = 10$

$l_0 = 30,$

$i = 10$

$$Z = l + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$$

Z = Mode
l = Lowe limit of mode class
i = deference between class intervals
f_0 = Freauncey of the mode class Preceding
f_2 = ,, ,, ,, ,, ,, following
f_1 = ,, ,, the mode class.

$$\Rightarrow 30 + \frac{30 - 25}{2 \times 30 - 25 - 10} \times 10$$

$$\Rightarrow 30 + \frac{5}{60 - 35} \times 10$$

$$\Rightarrow 30 + \frac{5}{25} \times 10^{2}$$

$$\Rightarrow 30 + 2$$

$$\Rightarrow 32$$

$\therefore \bar{x} = 30$
$Z = 32$ } Ans

B.R.A.B.U. Group-A, C

(1) V.V.I. Question For T.D.C. Part-III

By, Sujeet Kr Suman
Asst Faculty
R.N. College

B.com (2017-2020) Paper → VIII — Business statistics & Elementry maths.

Q No-1. → A mixture of 140 Litters of wine and water contents 10% water. How much water must be added to make the water $12\frac{1}{2}$% as the resulting mixture.

⇒ 140 Litters quality in water = $140 \times \frac{10}{100} = 14$ Litter

∴ 140 Litters quality in wine = 140 − 14

= 126 Litter

Let us x litters water reaction $12\frac{1}{2}$% and wine ratio $100 - 12\frac{1}{2}$% = 87.5%. Therefor mixture of wine 126 Li quantity in new mixture quantity is 87.5%.

Let us, New mixture = Y Litters

∴ Y = 87.5% = 126

∴ $Y = \frac{126 \times 100}{87.5}$

= 144 Li

∴ mixture resulting water quantity

= 144 − 140

= 4 Litter Ans

Q No-2. → An equal numbers of males, females and boys gets Rs. 225 in 10 days. If each male, female and boys get daily 42P, 30P and 18P respectively, find the numbers of males.

⇒ 10 days in total income = 225 Rs.

1 days ,, ,, ,, = 225 ÷ 10 = 22.50 Rs.

male, Female and boys income ratio = 42 : 30 : 18

∴ Total Ratio = 90

∴ Total income in male = $\frac{22.50 \times 42}{90}$ = 10.50 Rs. Ans

Q3. (a.) यदि $7P_r = 42$ हो तो r

Find the value of r ; if $7P_r = 42$

⇒ given, $7P_r = 42$

To Find the value of r = ?

we know that, $^nP_r = \frac{n!}{(n-r)!}$

⇒ $(7-r)! = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2}{42 \times 6}$

⇒ $(7-r)! = 5!$

⇒ $7 - r = 5$

$\therefore r = 7 - 5 = 2$ Ans

(b.) In a mile race X beats, Y 100 Yards, Y beats Z by 176 Yards by how Yards can beat Z ?

⇒ X beat Y 100 Yards

Y beats Z 176 Yards

By, no of Yards Z can be beat

= 100 + 176

= 276 Yards Ans