

29 / Sep / 2024

Maths

HW

Ex 10 (B)

2. i)  $5 \in B = \text{X Wrong } (5 \notin B)$

ii)  $12 \in B = \checkmark \text{ Correct}$

iii)  $14 \in B = \checkmark \text{ Correct}$

iv)  $9 \in B = \text{X Wrong } (9 \text{ is not an even no. It doesn't belong to set B})$

v) B is the set of even no.s from 2 between 2 & 16.  $= \checkmark \text{ Correct}$

vi) 4, 6 and 10 are the members of set B.  $= \checkmark \text{ Correct}$

3. i) Sets  $\{4, 9, 6, 2\}$  and  $\{6, 2, 4, 9\}$  are not the same.  $\Rightarrow \text{False}$

ii) Sets  $\{0, 1, 3, 9, 4\}$  and  $\{4, 0, 1, 3, 9\}$  are the same.  $\Rightarrow \text{True}$

iii) Sets  $\{5, 4\}$  and  $\{5, 4, 45\}$  are not same  $\Rightarrow \text{False}$

iv) Set  $\{8, 3\}$  and  $\{3, 3, 8\}$  are same.  $\Rightarrow \text{True}$

v) Collection of vowels used in the word 'ALLAHABAD' forms a set  $\Rightarrow$  True

vi) If P is the set of letters in the word 'Mumbai' 'ROOP'; then  $P = \{p, o, r\}$   
 $\Rightarrow$  True

vii) If M is the set of letters used in the word 'Mumbai'; then:  $M = \{m, u, b, a, i\}$   
 $\Rightarrow$  True

4. Write each of the following sets in Roster (Tabular) form and also in Set-Builder form:

i) Set of all natural nos. that can divide 24 completely.

Ans ★ Roster (or Tabular) Method  $\rightarrow$

Set of all natural nos that can divide 24 completely  $\Rightarrow \{1, 2, 3, 4, 6, 8, 12, 24\}$

★ Rule (or Set-builder) method  $\rightarrow$

Set of Natural nos that can divide 24 completely  
 $\Rightarrow \{x : x \text{ is the natural number that can divide 24 completely.}\}$

ii) Set of odd no.s ~~for~~ between 20 and 35.

Ans \* Roster Method  $\rightarrow$

$$\begin{aligned} \text{Set of odd no.s between 20 and 35} \\ = \{21, 23, 25, 27, 29, 31, 33, 35\} \end{aligned}$$

\* Set builder method  $\rightarrow$

$$\begin{aligned} \text{Set of odd no.s between 20 and 35} \\ = \{x \mid x \text{ is the odd nos. between} \\ 20 \text{ and } 35\} \end{aligned}$$

iii) Set of letters used in <sup>word</sup> ~~world~~, 'CALCUTTA'

Ans \* Roster Method  $\rightarrow$

$$\begin{aligned} \text{Set of letters used in word 'CALCUTTA'} \\ = \{C, A, L, U, T\} \end{aligned}$$

\* Set-builder method  $\rightarrow$

$$\begin{aligned} \text{Set of letters used in word 'CALCUTTA'} \\ = \{x \mid x \text{ is the } \text{word's}^{\text{letters}} \text{ used in} \\ \text{word 'CALCUTTA'}\} \end{aligned}$$

iv) Ans  $\star$  Roster Method  $\rightarrow$

Set of names of the first five months =  
 $\{ \text{january, february, march, april, may} \}$

$\star$  Set-builder Method  $\rightarrow$

Set of names of the first five months =  
 $\{ x/x \text{ is the value for first five months} \}$

v) Ans  $\star$  Roster Method  $\rightarrow$

Set of all two-digit numbers that are perfect squares as well =  $\{ 16, 25, 36, 49, 64, 81 \}$

$\star$  Set Builder  $\rightarrow$

Set of all two-digit nos. that are perfect squares as well =  $\{ x/x \text{ is a two digit no. which is a perfect squares as well.} \}$

5. i) ~~Ans~~ The first four odd natural nos. each divisible by five  $\Rightarrow$  ~~{5, 10, 15, 20}~~  
{5, 15, 25, 35} ~~Ans~~

ii) Ans The counting nos. between 15 and 35; each divisible by 6  $\Rightarrow$  {18, 24, 30}

iii) Ans The names of the last three days of a week  $\Rightarrow$  {Friday, Saturday, Sunday}

iv) Ans ~~Ans~~ The names of the last 4 months of year  $\Rightarrow$  {September, October, November, December}