

Sets.

① $P = \{1, 2, 3, 4, 5\}$
 $Q = \{1, 2, 6, 7, 8, 9\}$
 $P \cup Q = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

② nine.

② Every Set has a proper Subset

③ Ans

③ $A = x^2 - 1 = 0$

$$\sqrt{x^2} = \sqrt{1}$$

$$x = \pm 1$$

$$B = x^2 - 2x + 1 = 0$$

$$\sqrt{(x-1)^2} = \sqrt{0}$$

$$x-1 = 0$$

$$B = x = 1$$

$$A \cap B = 1 = B$$

$$A \cup B = \{1, -1\} = A \quad \text{④ Ans}$$

④ $A \cap B = \emptyset$

$$A \cup B' = ?$$

Let,

$$A = \{1, 2\} \quad B = \{3, 4\}$$

$$U = \{1, 2, 3, 4, 5\}$$

$$B' = \{1, 2, 3, 4, 5\} - \{3, 4\}$$

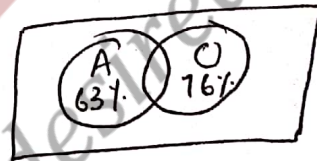
$$= \{1, 2, 5\}$$

$$A \cup B' = \{1, 2\} \cup \{1, 2, 5\}$$

$$A \cup B' = \{1, 2, 5\} = B' \quad \text{①.}$$

⑤

$$T = 100\%$$



$$T = 61 + 62 - \text{Both} + N.$$

$$100\% = 63\% + 76\% - B$$

$$B = (139 - 100)\% = 39\%$$

⑥ Total = 52

$$\text{only Tea} = 16$$

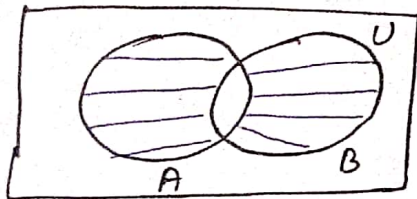
$$\text{Tea} = 33$$

$$\text{Both} = 33 + 16 - 17 = 32$$

$$\text{only Coffee} = 52 - 33 = 19$$

②

7



$$(A-B) \cup (B-A)$$

8 $\{1, \{2, 3\}\}$

$$\text{Subset} = 2^n$$

$$\text{Subset} = 2^2 = 4$$

11 $\{x \mid x^2 + 1 = 0 \quad x \in \mathbb{R}\}$

$$x^2 + 1 = 0 \Rightarrow \sqrt{x^2} = \sqrt{-1}$$

$$x = \pm i$$

Empty set (A)

13 $E = \{2, 4, 6, 8, \dots\}$

by adding

$$= \{2+1, 4+1, 6+1, 8+1, \dots\}$$

$$= \{3, 5, 7, 9, \dots\}$$

(B)

9 Formula for subset is

$$2^n$$

for put $n=1, 2, 3, 4$

$$2^1 = 2$$

$$2^2 = 4$$

$$2^3 = 8$$

$$\boxed{2^4 = 16} \text{ (B)}$$

10 (D) $A \cup B = X$ and $A^c = B$

$$\Rightarrow A \cap B = \emptyset$$

Statement verified by
Assuming Test.

12 (D) Not a set.

14 $O(M) = 20$

$$O(N) = 15$$

$$(M \cup N)_{\min} = O(M)$$

$$= 20$$

(B) A

$$15. \quad \text{Total} = 200.$$

$$\text{Passed in phy} = 120.$$

$$\text{Passed in maths} = 140.$$

$$T = G_1 + G_2 - B + N.$$

$$200 = 120 + 140 - B + 40$$

$$B = 260 - 200 + 40 = 100$$

Failed in bolts

OR,
2

IBA GRADS
Gateway to your desired future