



Sets Ex 1.6 Q1

The smallest set  $A$  such that

$$A \cup \{1, 2\} = \{1, 2, 3, 5, 9\} \text{ is } \{3, 5, 9\}$$

$$\therefore \{3, 5, 9\} \cup \{1, 2\} = \{1, 2, 3, 5, 9\}$$

Any other set  $B$  such that  $B \cup \{1, 2\} = \{1, 2, 3, 5, 9\}$  will

contain  $A$ . For example we can take  $B$  to be  $\{1, 3, 5, 9\}$  or  $\{1, 2, 3, 5, 9\}$ .

Clearly  $B$  contains  $A = \{3, 5, 9\}$ .

Sets Ex 1.6 Q2(i)

$$\text{i. } A = \{1, 2, 4, 5\}, B = \{2, 3, 5, 6\}, C = \{4, 5, 6, 7\}$$

$$B \cap C = \{5, 6\}$$

$$A \cup (B \cap C) = \{1, 2, 4, 5, 6\} \dots\dots\dots (1)$$

$$(A \cup B) = \{1, 2, 3, 4, 5, 6\}$$

$$(A \cup C) = \{1, 2, 4, 5, 6, 7\}$$

$$(A \cup B) \cap (A \cup C) = \{1, 2, 4, 5, 6\} \dots\dots\dots (2)$$

From eq<sup>n</sup> (1) and eq<sup>n</sup> (2), we get

$$A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$$

Sets Ex 1.6 Q2(ii)

$$\text{ii. } A = \{1, 2, 4, 5\}, B = \{2, 3, 5, 6\}, C = \{4, 5, 6, 7\}$$

$$B \cup C = \{2, 3, 4, 5, 6, 7\}$$

$$A \cap (B \cup C) = \{2, 4, 5\} \dots\dots\dots (1)$$

$$(A \cap B) = \{2, 5\}$$

$$(A \cap C) = \{4, 5\}$$

$$(A \cap B) \cup (A \cap C) = \{2, 4, 5\} \dots\dots\dots (2)$$

From eq<sup>n</sup> (1) and eq<sup>n</sup> (2), we get

$$A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$$

Sets Ex 1.6 Q2(iii)

$$\text{iii. } A = \{1, 2, 4, 5\}, B = \{2, 3, 5, 6\}, C = \{4, 5, 6, 7\}$$

$$B - C = \{2, 3\}$$

$$A \cap (B - C) = \{2\} \dots \dots \dots (1)$$

$$(A \cap B) = \{2, 5\}$$

$$(A \cap C) = \{4, 5\}$$

$$(A \cap B) - (A \cap C) = \{2\} \dots \dots \dots (2)$$

From eq<sup>n</sup> (1) and eq<sup>n</sup> (2), we get

$$A \cap (B - C) = (A \cap B) - (A \cap C)$$

\*\*\*\*\* END \*\*\*\*\*