

2. (i) Set  $B = \{4, 6, 8, 10, 12, 14\}$

Here, element 5 does not belong to set B  
Hence, the given statement is false

(ii) Set  $B = \{4, 6, 8, 10, 12, 14\}$

Here, element 12 belongs to set B  
Hence, the given statement is true

(iii) Set  $B = \{4, 6, 8, 10, 12, 14\}$

Here, element 14 belongs to set B  
Hence, the given statement is true

(iv) Set  $B = \{4, 6, 8, 10, 12, 14\}$

Here, element 9 does not belong to set B  
Hence, the given statement is false

(v) Set  $B = \{4, 6, 8, 10, 12, 14\}$   
Here,  $B$  is a set of even numbers between 2 & 16

Hence, the given statement is true

(vi) Set  $B = \{4, 6, 8, 10, 12, 14\}$   
Here, elements 4, 6 and 10 belongs to set  $B$   
Hence, the given statement is true

3. (i) False

(ii) True

(iii) False

(iv) True

(v) True

(vi) True

(vii) True

3. (i)  $\{x: x \text{ is an even natural number less than } 12\}$  is the Set builder form for  $\{2, 4, 6, 8, 10\}$

(ii)  $\{x: x \text{ is a prime number less than } 12\}$  is the Set builder form for  $\{2, 3, 5, 7, 11\}$

(iii)  $\{x: x \text{ is a month of the year whose name starts with letter } J\}$  is the Set builder form for  $\{\text{January, July, June}\}$

(iv)  $\{x: x \text{ is a day of the week whose name starts with letter } T\}$  is the Set builder form for  $\{\text{Tuesday, Thursday}\}$

4. (i) The Roster form is  $\{1, 2, 3, 4, 6, 8, 12, 24\}$   
The Set-builder form is  $\{x: x \text{ is a natural number which divides } 24 \text{ completely}\}$

(ii) The Roster form is  $\{21, 23, 25, 27, 29, 31, 33\}$   
The Set Builder form is  $\{x: x \text{ is an odd number between } 20 \text{ and } 35\}$

(iii) The Roster form is  $\{C, A, L, U, T\}$   
The Set Builder form is  $\{x: x \text{ is a letter used in the word } \text{CALCUTTA}\}$

(iv) The Roster form is  $\{\text{January, February, March, April, May}\}$

The Set builder form is  $\{x: x \text{ is a name of the first five month of a year}\}$

(v) The Roster Form is  $\{16, 25, 36, 49, 64, 81\}$   
The Set Builder is  $\{x: x \text{ is a perfect square of two digit numbers}\}$

5. (i)  $\{5, 15, 25, 35\}$

(ii)  $\{18, 24, 30\}$

(iii)  $\{\text{Friday, Saturday, Sunday}\}$

(iv)  $\{\text{September, October, November, December}\}$