Exercise 10(C)

1.i) The set of five numbers each of which is divisible by 3.

Ans⇒ C = {3, 6, 9, 12, 15}

ii) The set of integers between -4 and 4.

Ans⇒ E = {-4, -3, -2, -1, 0, 1, 2, 3, 4}

iii) {x : x is a letter in the word 'SCHOOL'}

Ans⇒ H = {s, c, h, o, l}

iv) {x : x is an odd natural number between 10 and 20}

Ans⇒ I = {11, 13, 17, 19}

v) {Vowels used in the word 'AMERICA'}

Ans⇒ ~~{A, E, I}~~ L = {A, E, I}

vi) {Consonants used in this word 'MADRAS'}

M=

Ans⇒ {M, D, R, S}

2. i) All prime numbers between 1 and 20.

Ans⇒ G = {2, 3, 5, 7, 11, 13, 17, 19}

ii) The squares of the first four natural numbers.

Ans⇒ C = {1, 4, 9, 16}

iii) Even numbers between 1 and 9.

Ans⇒ N = {2, 4, 6, 8}

iv) The first eight letters of the English alphabet.

Ans⇒ O = {A, B, C, D, E, F, G, H}

v) The letters of the word 'BASKET'.

Ans⇒ Q = {B, A, S, K, E, T}

vi) Four cities of India whose names start with the letter J.

Ans⇒ P = {Jamshedpur, Jamnagar, Jaipur, Jalandhar}

vii) Any four closed geometrical figures.

Ans⇒ R = {Square, Rectangle, Triangle, Circle}

viii) Vowels used in the word 'MONDAY'.

Ans⇒ S = {O, A}

ix) Single digit numbers that are perfect squares as well.

Ans⇒ T = {1, 4, 9}

3.i) {2, 4, 6, 8, 10}

Ans⇒ A = {x : x is a natural even number between 1 and 11}

ii) {2, 3, 5, 7, 11}

Ans⇒ B = {x : x is a prime number between 1 and 12.}

iii) {January, June, July}

Ans⇒ F = {x : x is the name of month starting with J.}

iv) {a, e, i, o, u}

Ans⇒ D = {x : x is the vowel of English alphabet.}

v) {Tuesday, Thrusday}

Ans⇒ W = {x : x is the name of day starting with T.}

vi) {1, 4, 9, 16, 25}

Ans⇒ Z = {x : x is the square of first five natural numbers.}

vii) $\{5, 10, 15, 20, 25, 30\}$

Ans⇒ $Y = \{x : x \text{ is the first six multiples of } 5.\}$

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

Ans⇒ $X = \{1, 2, 3, 4, 6, 8, 12, 24\}$ → Roster Form

$X = \{x : x \text{ is the natural number that can divide } 24 \text{ completely.}\}$ → Set-Builder Form

ii) Set of odd numbers between 20 and 35.

Ans⇒ $U = \{23, 29, 31\}$ → Roster Form

$U = \{x : x \text{ is the natural odd number between } 20 \text{ and } 35.\}$
Set-Builder Form

iii) Set of letters used in the word 'CALCUTTA'

Ans⇒ $N = \{C, A, L, U, T\}$ → Roster Form

$N = \{x : x \text{ is the letter used in the word 'CALCUTTA'}\}$
Set-Builder Form

iv) Set of names of the first five months of a year.

Ans⇒ $H = \{\text{January}, \text{February}, \text{March}, \text{April}, \text{May}\}$
Roster Form

$H = \{x : x \text{ is the name first five months of a year.}\}$
Set-Builder Form

v) Set of all two-digit numbers that are perfect squares as well.

Ans→ $J = \{16, 25, 36, 49, 64, 81\}$ → Roster Form

$J = \{x : x$ is the two-digit number which is also a perfect square$\}$ → Set-Builder Form

5.i) The first four odd natural numbers divisible by 5.

Ans→ $K = \{5, 15, 25, 35\}$

ii) The counting numbers between 15 and 35; each of which is divisible by 6.

Ans→ $C = \{18, 24, 30\}$

iii) The names of the three days of a week.

Ans→ $G = \{$ Friday, Saturday, Sunday $\}$

iv) The names of the last four months of a year.

Ans→ $L = \{$ September, October, November, December $\}$