

SECTION-B**UNIT-I**

2. i) Discuss the main laws of the operation of sets.
- ii) In a class of sixty boys, there are 45 boys who play cards and thirty play carom, find
- a) How many boys play both the games?
 - b) How many boys play cards only?
 - c) How many boys play carom only?
3. Discuss the fundamental properties of logarithm with proofs.

UNIT-II

4. i) Solve the equation with the help of Cramer's rule

$$x+6y-z = 10$$

$$2x+3y+3z=17$$

$$3x-3y-2z= -9$$

- ii) Define adjoint of a Matrix

5. i) Find the inverse of a matrix

$$\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$$

- ii) Define Transpose of a Matrix

UNIT-III

6. Find the sum of the series = $1 + 3.5 + 6 + 8.5 + \dots + 101$
7. i) Write down the first five terms of the geometric progression which has first term 1 and common ratio $1/2$.
- ii) Find the 10th and 20th terms of the GP with first term 3 and common ratio 2.
- iii) Find the 7th term of the GP $2, -6, 18, \dots$,

UNIT-IV

8. i) If the compound interest on a certain sum for two years at 10% p.a. is Rs 2,100 the simple interest on it at the same rate for two years will be.
- ii) The compound interest on a sum for 2 years is Rs. 832 and the simple interest on the same sum for the same period is Rs. 800. The difference between the compound and simple interest for 3 years will be.
9. Write note on the followings :
- i) Bill Discounting
- ii) Mark up