**Tutorial Sheet 1**

**FCS**

Q1.If A **=** {1, 3, 5}, B = {3, 5, 6} and C = {1, 3, 7}   
  
(i) Verify thatA ∪ (B ∩ C) = (A ∪ B) ∩ (A ∪ C)

(ii) Verify A ∩ (B ∪ C) = (A ∩ B) ∪ (A ∩ C)

Q2 Let A = {3, 5, 7}, B = {2, 3, 4, 6} and C = {2, 3, 4, 5, 6, 7, 8}  
  
(i) Verify (A ∩ B)' = A' ∪ B'  
  
(ii) Verify (A ∪ B)' = A' ∩ B'

Q3. If S = {1, 2, 3} find P(S)

Q4. In a group of 60 people, 27 like cold drinks and 42 like hot drinks and each person likes at least one of the two drinks. How many like both coffee and tea?

Q5. Each student in a class of 40 plays at least one indoor game chess, carrom and scrabble. 18 play chess, 20 play scrabble and 27 play carrom. 7 play chess and scrabble, 12 play scrabble and carrom and 4 play chess, carrom and scrabble. Find the number of students who play (i) chess and carrom. (ii) chess, carrom but not scrabble.

Q6. In a competition, a school awarded medals in different categories. 36 medals in dance, 12 medals in dramatics and 18 medals in music. If these medals went to a total of 45 persons and only 4 persons got medals in all the three categories, how many received medals in exactly two of these categories?