**ASSIGNMENT NO.-1(SETS)**

**(MATHEMATICS)**

1. Two finite sets have $m$ and $n$ elements.The total number of subsets of the first set is 56 more

 than the total number of subsets of the second set.Find the values of $m$ and $n$.

2. Write the following intervals in the set -builder form:

 (i) $(-7,0)$ (ii) $[-20,3)$

3. Draw venn diagrams to represent the following:

 (i) $A∪B$ (ii)$ A∩B$ (iii) $A∩B=ɸ$ (iv) $A-B$ (v) $B-A$

4. Let $U=\left\{1,2,3,4,5,6,7,8,9\right\}, A=\left\{1,2,3,4\right\},B=\{2,4,6,8\}$ and $C=\{3,4,5,6\}$ ,find:

 (i) $A^{'}$ (ii) $B^{'}$ (iii) $(A∩C)^{'}$ (iv) $(A∪B)^{'}$ (v) $(A^{'})^{'}$ (vi) $(B-C)^{'}$

5. Find the smallest set $A$ such that $A∪\left\{1,2\right\}=\left\{1,2,3,5,9\right\}.$

6. If $A=\left\{1,2,4,5\right\},B=\left\{2,3,5,6\right\}, C=\left\{4,5,6,7\right\}.$Verify the following identiities:

 (i) $A∩\left(B-C\right)=\left(A∩B\right)-(A∩C)$ (ii) $A-\left(B∪C\right)=(A-B)∩(A-C)$

7. Let $A$ and $B$ be two sets such that $n\left(A\right)=35 , n\left(A∩B\right)=11$ and $n\left[\left(A∪B\right)^{'}\right]=17$.If

 $n\left(U\right)=57,$find:

 (i) $n(B)$ (ii) $n(A-B)$ (iii) $n(B-A)$

8. If $A$ and $B$ are two sets and $U$ is the universal set such that

 $n\left(U\right)=700 ,n\left(A\right)=200 ,n\left(B\right)=300$ and $n\left(A∩B\right)=100.$Find $n\left(A^{'}∩B^{'}\right).$

9. In a survey of 700 students in a college,180 were listed as drinking Limca,275 as drinking Miranda

 and 95 were listed as both drinking Limca as well as Miranda.Find how many students were

 drinking neither Limca nor Miranda.

10. A market research group conducted a survey of 2000 consumers and reported that 1720

 consumers liked product A and 1450 consumers liked product B.What is the least number that

 must have liked both the products?