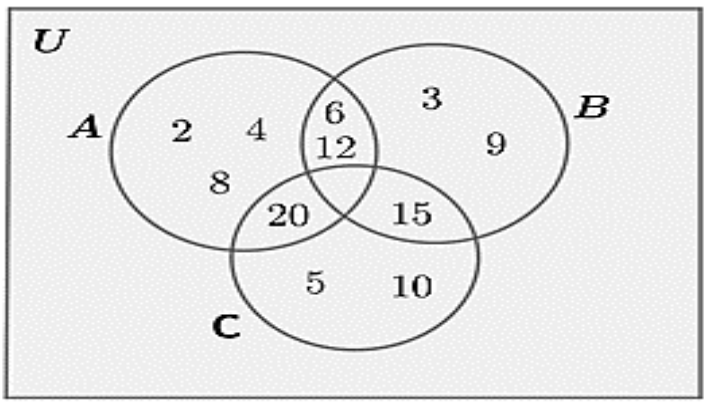
	BCM SCHOOL BASANT AVENUE DUGRI ROAD LUDHIANA ASSIGNMENT ANSWER KEY(SETS) CLASS XISC
1	**C**
2	**A**
3	**Assertion and reason is true and reason is correct explanation of assertion**
4	Let A and B be two sets having m and n elements respectively no of subsets of A = 2^m no of subsets of B = 2^n According to question $2^m = 56 + 2^n$ $2^m - 2^n = 56$ $2^n (2^{m-n} - 1) = 56$ $2^n (2^{m-n} - 1) = 2^3 (2^3 - 1)$ $2^n = 2^3$ n = 3 m − n = 3 m − 3 = 3 m = 6
5	**(i)** n (A) = n (A − B) + n (A ∩ B) = 14 + x + x = 14 + 2x N (B) = n (B − A) + n (A ∩ B) = 3x + x = 4x but n (A) = n (B) (Given) 14 + 2x = 4x x = 7 **(ii)** n (A ∪ B) = n (A − B) + n (B − A) + n (A ∩ B) = 14 + x+ 3x + x = 14 + 5x = 14 + 5 × 7 = 49
6	

7	**We have to prove, A– (A – B) = A ∩ B** **So take L.H.S** **A – (A – B) = A – (A ∩ B') {∵ A – B = A ∩ B'}** **= A ∩ (A ∩ B')'** **= A ∩ [A' ∪ (B')'] {∵ (A ∩ B)' = A' ∪ B'}** **= A ∩ (A' ∪ B) {∵ (B')' = B}** **= (A ∩ A') ∪ (A ∩ B) {∵ Distributive property of set: (A ∩ B) ∪ (A ∩ C) = A ∩ (B ∪ C)}** **= ∅ ∪ (A ∩ B) {∵ A ∩ A' = ∅}** **= A ∩ B = R.H.S** **Hence Proved**
8	**Sol.** Let $x \in (A-B) \cap (A-C)$ $\Rightarrow \quad x \in (A-B)$ and $x \in (A-C)$ $\Rightarrow \quad (x \in A$ and $x \notin B)$ and $(x \in A$ and $x \notin C)$ $\Rightarrow \quad x \in A$ and $(x \notin B$ and $x \notin C)$ $\Rightarrow \quad x \in A$ and $x \notin (B \cup C)$ $\Rightarrow \quad x \in A-(B \cup C)$ $\Rightarrow \quad (A-B) \cap (A-C) \subset A-(B \cup C)$ (i) Now, let $y \in A-(B \cup C)$ $\Rightarrow \quad y \in A-(B \cup C)$ $\Rightarrow \quad y \in A$ and $y \notin (B \cup C)$ $\Rightarrow \quad y \in A$ and $(y \notin B$ and $y \notin C)$ $\Rightarrow \quad (y \in A$ and $y \notin B)$ and $(y \in A$ and $y \notin C)$ $\Rightarrow \quad y \in (A-B)$ and $y \in (A-C)$ $\Rightarrow \quad y \in (A-B) \cap (A-C)$ $\Rightarrow \quad A-(B \cup C) \subset (A-B) \cap (A-C)$ (ii) From (i) and (ii), $A-(B \cup C) = (A-B) \cap (A-C)$
9	n(M)=a+b+d+e=15 $n(P)$ = b + c + e + f = 12 n(C) = d + e+f + g = 11 n (M ∩P) = b + e = 9 n (M ∩C) = d + e = 5 n (P ∩ C) = e + f = 4 e = 3

	so b = 6, d = 2, f = 1 a = 4, g = 5, c = 2 (i) g = 5, (ii) a = 4, (iii) c = 2 (iv) f = 1, (v) b = 6, (vi) g + a + c = 11 (vii) a + b + c + d + e + f + g + = 23 (viii) 25 - (a + b + c + d + e + f + g) = 25 - 23 = 2