1	If the number of non-empty subsets of a set is 4095, the number of elements of the set is
	(a) 10 (b) 11 (c) 12 (d) 13

2	If A = $\{4^n - 3n - 1 : n \in N\}$ and B = $\{9n - 9 : n \in N\}$, A $\cup$ B is
	(a) B (b) A (c) N (d) {0}

3	If A and B are two sets such that $n(A) = 12$, $n(A - B) = 5$ and $n(A \cup B) = 23$, the maximum number of subsets of A $\cap$ B is
	(a) 128 (b) 64 (c) 256 (d) 1024

4	If P and Q are two well defined and finite sets and Q has 90 elements, P $\cap$ Q has 30 elements and P $\cup$ Q has 108 elements, the cardinality of P $-$ Q is
	(a) 18 (b) 48 (c) 90 (d) 30

5	If A = $\{(x, y) : x^2 + y^2 = 25\}$ and B = $\{(x, y) : x^2 + 9y^2 = 144\}$ where x, y are integers, the number of elements in A $\cup$ B is
	(a) 8 (b) 10 (c) 12 (d) 16

6	If A and B are two finite sets such that $n[P(A)] = n[P(B)] + 992$, $n(A) + n(B)$ is
	(a) 15 (b) 50 (c) 5 (d) 32

7	If the sets A and B have 3 and 6 elements respectively, the minimum number of elements in A $\cup$ B is
	(a) 3 (b) 9 (c) 8 (d) 6

8	Let A and B are two sets with m and n elements, respectively. If the number of subsets of first set is 56 more than the number of subsets of the second set, (m, n) is
	(a) (3, 6) (b) (6, 3) (c) (2, 3) (d) (4, 3)

9	If A and B are two sets, A $\cap$ (A $\cup$ B) equals
	(a) A (b) B (c) ϕ (d) A $\cap$ B

10	If A is a finite set having n elements, the power set P(A) has
	(a) $2n$ elements (b) 2^n elements (c) n elements (d) n^2 elements

11	For any two sets A and B, A $\cap$ (B $\cap$ A)$'$ is
	(a) A (b) B (c) ϕ (d) A $-$ B

12	For any three sets A, B, C which of the following is true?

(a) A $-$ (B $\cup$ C) = (A $-$ B) $\cup$ C $\qquad$ (b) A $-$ (B $\cap$ C) = (A $-$ B) $\cap$ C

(c) A $\cap$ (B $-$ C) = (A $\cap$ B) $-$ C $\qquad$ (d) A $-$ (B $-$ C) = (A $-$ B) $-$ C

13	If A and B are two sets, then (A $-$ B) $\cap$ B

(a) A $\qquad$ (b) B $\qquad$ (c) A $\cap$ B $\qquad$ (d) ϕ

14	The smallest set X such X $\cup$ {1, 2} = {1, 2, 3, 5, 7, 9} is

(a) 12 $\qquad$ (b) 16 $\qquad$ (c) 14 $\qquad$ (d) 20

15	If $n(U) = 36$, $n(A) = 16$, $n(B) = 12$, and $n(A \cap B) = 4$, where U is the universal set, A and B are subsets of U, then $n(A \cup B)'$ equals

(a) 12 $\qquad$ (b) 16 $\qquad$ (c) 14 $\qquad$ (d) 24

16	The value of $n[(A - B) \cup (B - A)] + n(A \cap B)$ equals

(a) $n(A)$ $\qquad$ (b) $n(B)$ $\qquad$ (c) $n(A \cap B)$ $\qquad$ (d) $n(A \cup B)$

17	The number of proper subsets of the set {a, b, c, d, e, f, g} is

(a) 128 $\qquad$ (b) 126 $\qquad$ (c) 127 $\qquad$ (d) 63

18	Let A = {2, 3, 4, 8, 10}, B = {3, 4, 5, 10, 12} and C = {4, 5, 6, 12, 14}, then $(A \cup B) \cap (A \cup C)$ is

(a) {2, 3, 4, 5, 10, 12} $\qquad$ (b) {2, 3, 4, 5, 8, 10, 12}

(c) {2, 3, 4, 10, 12} (d) {2, 4, 8, 10, 12} (e) none of these

19	Let A = {$x : x$ is a digit in the number 3591}, B = {$x : x \in$ N, $x < 10$}, then which of the following is false

(a) B = {1, 2, 3, 4, 5, 6, 7, 8, 9} $\qquad$ (b) A $\cap$ B = {1, 3, 5, 9}

(c) A $-$ B = {2, 4, 6, 7, 8} $\qquad$ (d) B $-$ A = {2, 4, 6, 7, 8}

20	In a school, out of 20 teachers, 12 teach Mathematics while 4 teach both Mathematics and Physics, number of teachers who teach Physics is

(a) 12 $\qquad$ (b) 24 $\qquad$ (c) 4 $\qquad$ (d) 25

Answers

1	C		6	A		11	D		16	D
2	A		7	D		12	D		17	C
3	A		8	B		13	D		18	B
4	A		9	A		14	D		19	C
5	D		10	B		15	A		20	A