Choose the correct answer

1. The number of different ways of describing a set is
   (a) one   (b) two   (c) three   (d) four

2. The set of real numbers is the subset of
   (a) set of natural no.   (b) set of rational no.   (c) set of integers   (d) set of complex no.

3. { 1,2,3 } is
   (a) an infinite set   (b) a finite set   (c) a singleton set   (d) empty set

4. $\{ x \mid x \in N \land 2 < x < 4 \}$ is
   (a) an infinite set   (b) a finite set   (c) a singleton set   (d) empty set

5. $A - B =$
   (a) $A \cap B'$ (b) $A' \cap B$ (c) $A \cup B'$ (d) $A' \cup B$

6. if n(A)=n then n(P(A)) is
   (a) 2n   (b) n^2 (c) $\dfrac{n}{2}$ (d) 2^n

7. Two sets A and B are said to be disjoint if
   (a) $A \cap B = \phi$ (b) $A \cap B = A$ (c) $A \cap B = B$ (d) $A \cap B = U$

8. $A \cap (B \cup C) =$
   (a) $(A \cap B) \cup C$ (b) $(A \cap B) \cup (A \cap C)$ (c) $(A \cup B) \cap C$ (d) $(A \cap B) \cap (A \cap C)$

9. if A is subset of universal set U then $A \cap A' =$
   (a) ϕ (b) A   (c) A' (d) U

10. A statement which is either true or false is called
    (a) induction   (b) deduction   (c) proposition   (d) logic

11. If p and q are two statements then their conjunction is denoted by
    (a) $p \land q$ (b) $p \lor q$ (c) $p \to q$ (d) $p \leftrightarrow q$

12. If p and q are two statements then their disjunction is denoted by
    (a) $p \land q$ (b) $p \lor q$ (c) $p \to q$ (d) $p \leftrightarrow q$

13. If we have a statement " if p then q " then p is called
    (a) conclusion   (b) Implication   (c) unknown   (d) hypothesis

14. The compound statement $p \leftrightarrow q$ is called
    (a) biconditional   (b) implication   (c) antecedent   (d) hypothesis

15. If A and B are two sets then any subset R of $A \times B$ is called
    (a) relation on A   (b) relation on B   (c) relation from A to B   (d) relation from B to A

16. If a is a set then any subset R of $A \times A$ is called
    (a) relation on A   (b) relation on B   (c) relation from A to B   (d) relation from B to A

17. The set of second elements of the ordered pairs in a relation is called its
    (a) domain   (b) range   (c) relation   (d) function

18. If A={1,2,3}, then the relation on A $\{(x,y) \mid x,y \in A \land x < y\}$ is
    (a) {(3,1),(3,2)}   (b) {(1,2),(2,1),(2,3)}   (c) {(1,2),(1,3),(2,3)}   (d){(1,1),(2,2),(3,3)}

19. The function $f ; R \to R$ defined by $f = \{(x, y) \mid y = mx + c\}$
    (a) a constant function   (b) linear function   (c) quadratic function   (d) none of these

20. If A, B, C are three sets then $A \cup (B \cup C) = (A \cup B) \cup C$ is called
    (a)Commutative property   (b)Distributive property   (c)Associative property   (d)none these

21. The graph of the linear function is
    (a) a circle   (b) triangle   (c) a straight line   (d) none of these

22. The function defined by the equation $y = \sqrt{x}$, $x \geq 0$ is called
    (a) square root function   (b) identity function   (c) linear function   (d) quadratic function

23. If A={1,2,3,4} then domain of the relation {(1,1),(2,2),(3,4),(4,3)} is
    (a) {1,2,3}   (b) { }   (c) {1,2,3,4}   (d) none of these
24. The binary operation $*$ is called commutative in S if $\forall a,b \in S$
    (a) $a*b = b*a$ (b) $a*b = -b*a$ (c) $ab = ba$ (d) none of these
25. The set of integers is a group w.r.t
    (a) addition   (b) subtraction   (c) multiplication   (d) division
26. The set $\{2^n \mid n \in Z\}$ is a group w.r.t
    (a) addition   (b) subtraction   (c) multiplication   (d) division
27. The set {1,-1,i,-i} is a group w.r.t
    (a) addition   (b) subtraction   (c) multiplication   (d) division
28. In which method the elements of the set written within braces.
    (a) tabular   (b) descriptive   (c) set-builder   (d) none of these
29. $\{x \mid x \in N$ and $x < 1\}$ is
    (a) singular set   (b) set with two elements   (c) empty set   (d) infinite set
30. A disjunction of two statements p and q is true if
    (a) p is false   (b) q is false   (c) both p and q are false   (d) one of p and q is true
31. $(G, *)$ is an abelian group if for all a,b$\in$ G
    (a) $a+b = b+a$ (b) $ab = ba$ (c) $a*b = b*a$ (d) none of these
32. If A,B are subsets of universal set U, then $\left(A \cap B\right)' =$
    (a) $A \cap B$ (b) $A' \cap B'$ (c) $A' \cup B$ (d) $A' \cup B'$
33. What is the number of elements of the power set of { }
    (a) 0   (b) 1   (c) 2   (d) 3
34. Let A and B be two sets. If every element of A is also an element of B then
    (a) $A \subseteq B$ (b) $B \subseteq A$ (c) $A \subseteq B'$ (d) $A' \subseteq B$
35. If A is the subset of the universal set U then $\left(A'\right)' =$
    (a) ϕ (b) A   (c) U   (d) none of these
36. If $A \cap B = \phi$ then $n(A \cap B)=$
    (a) n(A)   (b) n(B)   (c) 0   (d) 1
37. If A={1,2,3} and B={a,b} then a function from A to B is
    (a) {(1,a),(2,b),(3,a)}   (b) {(1,a),(2,b)}   (c) {(a,1),(b,2)}   (d) {(1,1),(2,2)}
38. If p is a propagation then its negation is denoted by
    (a) $\wedge p$ (b) $\vee p$ (c) p' (d) $\sim p$
39. If A is subset of the universal set U then $A \cup A' =$
    (a) ϕ (b) A (c) U   (d) A'
40. If $A \subseteq B$ then $A \cap B =$
    (a) A (b) B (c) ϕ (d) U

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