Chapter: 2

(ii) Set is described in ____ ways.
a- 1 b- 2 ✓c- 3 d- 4

(iii) No. of elements in a set is ____.
✓a- Order b- Inverse c- Element d- Power.

(3) If $A=\{\}$ then $P(A)=$ ____.
a- ϕ b- $\{\}$ ✓c- $\{\phi\}$ d- $\{\{\},\phi\}$

(4) Set with no element is called ____ set.
✓a- Empty b- Singleton c- infinite d- Equal.

(5) Elements in $P(A)$ are ____ if $A=\{a,b,c\}$
a- 3 b- 2 c- 4 ✓d- 8

(6) No. of subsets of a set with n^2 elements is ____.
a- 2^n b- $2n^2$ c- n^2 ✓d- 2^{n^2}.

(7) ____ $=(A\cup B)\cap(A\cup C)$.
a- $(A\cup B)\cap C$ b- $A\cap(B\cup C)$ ✓c- $A\cup(B\cap C)$ d- $A\cap(B\cup C)$.

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

(9) If $A\subseteq B$ then $A\cup B=$ ____
a- A b- A' ✓c- B d- B'

(10) If $A\subseteq U$ then $A'=$ ____.
a- ϕ b- U ✓c- $U-A$ d- A.

(11) ____ $=\{x \mid x\in A\wedge x\notin B\}$.
✓a- $A-B$ b- $B-A$ c- $A\cap B$ d- $B\cap A^c$

(12) Set of real numbers between 0 and 1 is ____ set.
a- Empty b- Finite ✓c- Infinite d- Singleton

(13) Order of $\{1,2,3\}$ is ____.
✓a- 3 b- 2^3 c- 8 d- 2

(14) For $A\subseteq U$, $A\cap A'=$ ____.
a- U b✓- ϕ c- A d- A'

(15) $A\cup B=$ ____ a- A b- B c✓- $B\cup A$ d- ϕ

(16) ____ set has no proper Subset.
✓a- Empty b- Singleton c- Finite d- Infinite.

(17) Tabular form of $\{x \mid x\in Q\wedge x^2=\sqrt{2}\}$ is ____.
a- $\{-\sqrt{2},\sqrt{2}\}$ b- $\{-\sqrt{2}<x<\sqrt{2}\}$ c✓- ϕ d- $\{-\sqrt{2}>x>\sqrt{2}\}$

TAHIR MEHMOOD
M.Sc. Math
0345-6510779

M. C. O's (Ist Year) ⑤

TAHIR MEHMOOD
M.Sc. Math
0345-6510779

18) $n(A \cup B) = n(A) + n(B)$ if _____.

a- $A = B$ b- $A \cap B = A$ c- $A \cap B = B$ ✓d- $A \cap B = \phi$

19) For any two Set A, B, $A - B =$ _____.

a- $A \cap B$ b- $A \cup B$ ✓c- $A \cap B'$ d- $A \cup B'$

20) _____ $= \{x / x \in A \text{ or } x \in B\}$

a- $A \cap B$ b- $A - B$ c- $A \cap B'$ ✓d- $A \cup B$

21) _____ $= \{x / x \in A \text{ and } x \in B\}$

a- $A \cup B$ b✓- $A \cap B$ c- $A - B$ d- $A \cap B'$

22) For any Set $A \subseteq U$, $(A^c)^c =$ _____.

✓a- A b- A^c c- A^{c^2} d- A^{2c}.

23) If $A \subsetneq B$ then $n(A - B) =$ _____.

a- ϕ b✓- 0 c- 1 d- $n(B) - n(A)$

24) $A \cup (B \cap C) =$ _____

✓a- $(A \cup B) \cap (A \cup C)$ b- $(A \cap B) \cup (A \cap C)$ c- $A^c \cap B^c$ d- $A^c \cup B^c$

25) $P \vee q$ denotes _____ of p and q.

a- Conjuction ✓b- Disjuction c- Interjuction d- Negation

26) $P \wedge q$ denotes _____ of p and q.

✓a- Conjuction b- Disjunction c- Negation d- Interjuction.

27) Converse of $P \rightarrow q$ is _____.

a- $\sim P \rightarrow \sim q$ b- $\sim p \rightarrow q$ c✓- $q \rightarrow p$ d- $\sim q \rightarrow p$.

28) Inverse of $p \rightarrow q$ is _____.

a- $\sim p \rightarrow q$ b✓- $\sim p \rightarrow \sim q$ c- $q \rightarrow p$ d- $p \rightarrow \sim q$

29) Contapositive of $p \rightarrow q$ is _____.

a- $\sim p \rightarrow \sim q$ b✓- $\sim q \rightarrow \sim p$ c- $\sim q \rightarrow \sim q$ d- $\sim q \rightarrow p$

30) A Statement true for all variables is called _____.

a- Conjuction b✓- Tautology c- Disjuction d- Interjuction.

31) Universal Quantifier is _____.

a- $\exists$ b- $\in$ c- $\ni$ ✓d- $\forall$

32) Existantial Quantifier is _____.

a- $\forall$ b✓- $\exists$ c- $\in$ d- $\ni$

33) A Subset of $A \times B$ is _____.

a- Relation on A b- Relation on B c✓- Relation from A to B d- Relation from B to A.

34) If $A=\{1,2,3\}$ then $n(A\times A)=$ _____.
a- 8 b- 3 c✓- 9 d- 6

35) A function $f: A \to B$ is called into function if _____.
a- $Ranf = A$ b- $Ranf \subset A$ c✓- $Ranf \subset B$ d- $Ranf = B$

36) A function $f: A \to B$ is onto if _____.
a- $Ranf \subset A$ b- $Ranf = A$ c- $Ranf \subset B$ d✓- $Ranf = B$

37) A one-one and onto function is called _____ function.
a- Injective b- Surjective c✓- Bijective d- Subjective

38) $f=\{(1,1),(2,4),(3,9)\}$ then $f^{-1}=$ _____.
a- $\{(1,1),(4,2),(3,9)\}$ b✓- $\{(1,1),(4,2),(9,3)\}$ c- $\{(1,1),(2,4),(9,3)\}$ d- $\{(1,1),(2,4),(3,9)\}$

39) $f=\{(x,y) \mid y=mx+c\}$ is _____ function.
a- Quadratic b✓- Linear c- Square root d- Inverse

40) Graph of $\{(x,y) \mid ax^2+bx+c=y\}$ is _____.
a- Elliptic b✓- Parabolic c- Circle d- Straight Line

41) If $G=\{1,-1,i,-i\}$ is group under multiplication then invers of i is ___
a- 1 b- -1 c- i d✓- $-i$

42) $(\mathbb{Z}, \cdot)$ is not a _____.
a- Groupoid b- Semigroup c- Monoid d✓- group

43) Negation of proposition p is denoted by _____
a- $-p$ b- p^{-1} c✓- $\sim p$ d $-(\sim p)$

44) $(a,b)=(b,a)$ if _____.
a- $a=0$ b- $b=0$ c✓- $a=b$ d- $a=-b$

45) $\sim(p \vee q) =$ _____.
a- $p \vee q$ b- $p \wedge q$ c- $\sim p \vee \sim q$ d✓- $\sim p \wedge \sim q$

46) _____ $=(p \wedge q) \vee (p \wedge r)$
a- $p \vee (q \wedge r)$ b✓- $p \wedge (q \vee r)$ c- $p \vee (q \vee r)$ d- $p \wedge (q \wedge r)$

47) If $a,b \in G \Rightarrow ab=ba$ then G is _____ group.
a✓- Abelian b- Non-abelian c- Simple d- Not

48) Which set is not group under addition?
a✓- $\mathbb{N}$ b- $\mathbb{Q}$ c- $\mathbb{R}$ d- $\mathbb{C}$

49) $\forall\ a,b \in G \Rightarrow (ab)^{-1}=$ _____.
a- ab b- ba c- $a^{-1}b^{-1}$ d✓- $b^{-1}a^{-1}$

50) In group $G=\{1,\omega,\omega^2\}$ for $\omega^3=1$ under "$\cdot$", inverse of ω is ___
a- 1 b- ω c✓- ω^2 d- ω^3