Discrete Mathematics MCQ Questions and Answer PDF

1. How many injections are defined from set A to set B if set A has 4 elements and set B has 5 elements?

1. 144
2. 24
3. 64
4. 120

Answer:120

2. Which of the following function is also referred to as an injective function?

1. One-to-One
2. Many-to-one
3. Onto
4. None of the above

Answer: One-to-One.

3. If x is a set and the set contains an integer which is neither positive nor negative then the set x is _____.

1. Set is both Non- empty and Finite.
2. Set is Empty
3. Set is Finite.
4. Set is Non-empty

Answer: Set is both Non- empty and Finite.

4.Which of the following function is not a mathematics function?

1. many to one
2. one to one
3. one-to-many
4. All of the above

Answer: All of the above

5. If x ∈ N and x is prime, then x is _____ set.

1. Finite set
2. Empty set
3. Not a set
4. Infinite set

Answer: Infinite set

6. Mathematics can be broadly categorized into how many types?

1. 2 types
2. 4 types
3. 5 types
4. 3 types

Answer: 2 types

7.How many elements in the Power set of set A= {{Φ}, {Φ, {Φ}}}?

1. 5 elements
2. 2 elements
3. 4 elements
4. 6 elements

Answer: 4 elements

8. Power set of empty or Null set has exactly _____ subset.

1. One
2. Three
3. Two
4. Zero

Answer: One

9. Let the players who play cricket be 12, the ones who play football 10, those who play only cricket are 6, then the number of players who play only football are _____, assuming there is a total of 16 players

1. 10
2. 16
3. 4
4. 8

Answer: 4

10. If x is a set and the set contains the real number between 1 and 2, then the set is _____.

1. Empty set
2. Finite set
3. Infinite set
4. None of the above

Answer: Infinite set.

11.The cardinality of the Power set of the set {1, 5, 6} is_____.

1. 6
2. 8
3. 10
4. 5

Answer: 8

12. Which among the following can be taken as the discrete object?

1. Rational numbers
2. People
3. Integers
4. All of the above

Answer: All of the above

13.Universal logic gate is_____.

1. NAND
2. OR
3. NOT
4. AND

Answer: NAND

14.In which year Maurice Karnaughin introduced the Karnaugh map?

1. 1952
2. 1953
3. 1950
4. 1956

Answer: 1953

15. Canonical forms for a boolean expression has _____ types.

1. Three types
2. Two types
3. Five types
4. Four types

Answer: Two types.

16.Which of the following matrix having only one column and multiple rows?

1. Column Matrix
2. Diagonal Matrix
3. Row Matrix
4. None of the above

Answer: Column Matrix.

17.Which of the following matrix having only one row and multiple columns?

1. Row Matrix
2. Column Matrix
3. Diagonal Matrix
4. None of the above

Answer: Row Matrix

18.Which of the following Law of Boolean proofs the X.X=X?

1. Complement Law
2. Identity Law
3. Idempotent Law
4. Double Complement Law

Answer: Idempotent Law.

19. Boolean algebra deals with how many values.

1. It deals with only three discrete values.
2. It deals with only four discrete values.
3. It deals with only two discrete values.
4. It deals with only five discrete values.

Answer: It deals with only two discrete values.

20. Which option is the negation of the bits "1001011"?

1. 0110100
2. 11011011
3. 10110100
4. 1100100

Answer: 0110100

21. Which statement is incorrect if X and Y are the two non-empty relations on the set S.

1. If X and Y are symmetric, then the union of X and Y is not symmetric.
2. If X and Y are transitive, then the intersection of X and Y is also transitive.
3. If X and Y are transitive, then the union of X and Y is not transitive.
4. If X and Y are reflexive, then the intersection of X and Y is also reflexive.

Answer: If X and Y are transitive, then the union of X and Y is not transitive.

22. The number of transitive closure exists in the relation R = {(0,1), (1,2), (2,2), (3,4), (5,3), (5,4)} where {1, 2, 3, 4, 5} ∈ A is_____.

1. {(0,0), (4,4), (5,5), (1,1), (2,2), (3,3)}
2. {(0,1), (0,2), (1,2), (2,2), (3,4), (5,3), (5,4)}
3. {(0,1), (1,2), (2,2), (3,4)}
4. {(0,1), (5,3), (5,4), (1,1), (2,2)}

Answer:{(0,1), (0,2), (1,2), (2,2), (3,4), (5,3), (5,4)}

23.The number of reflexive closure of the relation {(0,1), (1,1), (1,3), (2,1), (2,2), (3,0)} on the set {0, 1, 2, 3} is_____.

1. 36
2. 2^6
3. 8
4. 6

Answer: 6

24. How many relations exist from set X to set Y if the set X and set Y has 7 and 8 elements?

1. 2^{56}
2. 3^{56}
3. 56
4. 2^{72}

Answer: 2^{56}

25. What is Ceil function?

1. It maps the real number to the smallest previous integer
2. It maps the real number to the smallest following integer
3. It maps the real number to the greatest previous integer
4. None of the mentioned

Answer: It maps the real number to the smallest following integer.

26. The cardinality of the set of even positive integers less than 20 is_____

1. 10
2. 12
3. 8
4. 9

Answer: 9

27. What is Floor function?

1. It maps the real number to the greatest previous integer
2. It maps the real number to the smallest previous integer
3. It maps the real number to the smallest following integer

4. None of the above

Answer: It maps the real number to the greatest previous integer

28. How many bytes are needed for encoding 2000 bits of data?

1. 2 bytes
2. 5 Byte
3. 4 bytes
4. 8 bytes

Answer: 2 bytes

29. If X = {2, 8, 12, 15, 16} and Y= {8, 16, 15, 18, 9} then union of X and Y is_____.

1. {8, 16, 15, 18, 9}
2. {2, 8, 12, 15, 16}
3. { 8, 16, 15}
4. {2, 8, 9, 12, 15, 16, 18}

Answer: {2, 8, 9, 12, 15, 16, 18}

30. The function (gof) is _____ , if the function f and g are onto function?

1. one-to-many function
2. Into function
3. one to one function
4. onto function

Answer: onto