Exam: MST-III_Nov-2021_CS3BS03 Discrete Mathematics

Discrete Mathematics (T)
0/40

1 Not Answered

In a colony, there are 55 members. Every member posts a greeting card to all the members. How many greeting cards were posted by them?

A.	990
B.	890
✓ C.	2970
D.	1980

2 Not Answered

Which of the examples below expresses the commutative law of multiplication?

A.	A + B = B + A
B.	A • B = B + A
C.	A • (B • C) = (A • B) • C
✓ D.	A • B = B • A

3 Not Answered

Consider the binary relation R {(x,y),(y,z),(z,x),(z,y)} on the set {x,y,z} , which one of the following is true?

A.	R is symmetric but Not antisymmetric R is symmetric but Not antisymmetric
B.	R is not symmetric but antisymmetric
C.	R is both symmetric and antisymmetric R is both symmetric and antisymmetric
✓ D.	R is neither symmetric nor antisymmetric

4 Not Answered

In how many ways a project team of 5 members can be selected from 6 men and 5 women consisting of 3 men and 2 women

A.	100
✓ B.	200
C.	300
D.	None

5 Not Answered

In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?

A.	120
B.	520
✓ C.	720
D.	220

6 Not Answered

An event can occur in three ways, then is followed by other event which can occur in 5 ways. The number of ways the two events occur =…

A.	2
B.	8
C.	10
✓ D.	15

7 Not Answered

A compound proposition that is always _____ is called a tautology

✓ A.	TRUE
B.	FALSE

8 Not Answered

Which of the following words means that a circle cannot be flipped over when determining the number of different possible arrangements of items?

✓ A.	fixed
B.	fickle
C.	friendly
D.	free

9 Not Answered

Set A has 3 elements and set B has 4 elements then number of injections defined from A to B are?

A.	12
✓ B.	24
C.	36
D.	48

10 Not Answered

Which of the following graph is non planner?

A.	K5
B.	K6
✓ C.	Both
D.	None

11 Not Answered

The Generating function for sequence <1,-1,1,-1,…….> is

A.	1/(1-x)
✓ B.	1/(1+x)
C.	1/(1-2x)
D.	None

12 Not Answered

In a poset P({a,b,c,d}, ⊆) which of the following is the greatest element?

✓ A.	{a,b,c,d}
B.	Ø
C.	{ab,bc,cd}
D.	1

13 Not Answered

Amit must choose a three-digit PIN number and each digit can be chosen from 0 to 9. How many different possible PIN numbers can Amit choose?

A.	9*9*9
B.	9*10*10
✓ C.	10*10*10
D.	10*9*8

14 Not Answered

As per survey uses of social media in mobile of 500 users, following information produced, 285 uses Facebook, 195 uses whatsapp, 115 uses Twitter, 45 uses Facebook and Twitter, 70 uses Facebook and

whatsapp, 50 uses whatsapp and Twitter & 50 donot use any social media, now findout how many mobile users use only one social media

A.	40
B.	95
C.	190
✓ D.	325

15 Not Answered

In how many ways can the letters of the words "ABACUS" be rearranged such that the vowels always appear together?

A.	60
B.	120
C.	30
✓ D.	None

16 Not Answered

What is the generating function for the sequence with closed formula an=4(7n)+6(−2)n?

A.	(4/1−7x)+6!
B.	(3/1−8x)
✓ C.	(4/1−7x)+(6/1+2x)
D.	(6/1-2x)+8

17 Not Answered

The number of ways to distribute 4 books to 5 persons are_____

✓ A.	70

B.	50
C.	40
D.	None

18 Not Answered

A complete bipartite graph is a one in which each vertex in set X has an edge with set Y. Let n be the total number of vertices. For maximum number of edges, the total number of vertices hat should be present on set X is?

A.	n
✓ B.	n/2
C.	n/4
D.	Information given is insufficient

19 Not Answered

Six people are going to sit at a round table. How many different ways can this be done?

A.	360
✓ B.	120
C.	720
D.	60

20 Not Answered

Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed

A.	1050
B.	220
✓ C.	210

D.	510

21 Not Answered

If T is a full binary tree and has 5 internal vertices then the total vertices of T are

✓ A.	11
B.	12
C.	13
D.	None of these

22 Not Answered

In how many ways can the letters of the word 'LEADER' be arranged?

A.	144
✓ B.	320
C.	216
D.	128

23 Not Answered

In a room there are 2 green chairs, 3 yellow chairs and 4 blue chairs. In how many ways can Raj choose 3 chairs so that at least one yellow chair is included?

A.	32
B.	12
✓ C.	64
D.	48

24 Not Answered

Which of the following is group

A.	({0,1,3,5},+7)
B.	({0,2,3,4,6,8},+9)
C.	({1,2,3,4,5},*6)
✓ D.	({1,3,5,7},*8)

25 Not Answered

Let (A,*) is a group where A= {0,1,2,3,4,5,6,7,8,9,10,11,12} with *= (a+b) mod 13 . What is order of element 12?

A.	1
✓ B.	13
C.	5
D.	7

26 Not Answered

Which of the following functions generates new data at each step of a method?

✓ A.	corecursive function
B.	structural recursive function
C.	unirecursive function
D.	indirect function

27 Not Answered

How many three-digit numbers can be made from the digits 0 to 4 if repetition is allowed?

✓ A.	100
B.	125
C.	48
D.	64

28 Not Answered

Hasse digram is bydefault

A.	Reflexive
B.	Transitive
✓ C.	Both
D.	None

29 Not Answered

For her English literature course, Ruchika has to choose one novel to study from a list of ten, one poem from a list of fifteen and one short story from a list of seven. How many different choices does Rachel have?

A.	34900
B.	26500
C.	12000
✓ D.	10500

30 Not Answered

Which of the following is not a type of graph in Discrete Mathematics?

A.	Un-Directed Graph
B.	Directed- weighted Graph
✓ C.	Bar Graph
D.	Un-Directed Unweighted Graph

31 Not Answered

In how many ways cricket eleven be chosen out of a batch of 15 players?

A.	1265
✓ B.	1365

C.	1165
D.	1160

32 Not Answered

Let (A,*) is a group where A= {0,1,2,3,4,5,6,7} with *= (a+b) mod 8 . What is order of element 1?

A.	1
✓ B.	8
C.	7
D.	5

33 Not Answered

Every poset that is a complete semilattice must always be a _____

A.	sublattice
✓ B.	complete lattice
C.	free lattice
D.	partial lattice

34 Not Answered

What is the recurrence relation for 1, 7, 31, 127, 499?

A.	bn+1=5bn-1+3
B.	bn=4bn+7!
✓ C.	bn=4bn-1+3
D.	bn=bn-1+1

35 Not Answered

Which of the following is a group?

A.	[N, *] where N is set of natural number
B.	[Z, -] where Z is set of integer
C.	[R, *] where R is set of real number
✓ D.	None of these

36 Not Answered

In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

✓ A.	209
B.	205
C.	144
D.	None

37 Not Answered

find the number of zeros at the end of 100!

A.	75
B.	87
C.	91
✓ D.	24

38 Not Answered

What is the generating function for generating series 1, 2, 3, 4, 5,… ?

A.	2/(1−3x)
B.	2/(1−3x)
✓ C.	1/(1−x)^2
D.	1/(1−x^2)

39 Not Answered

How many substrings (of all lengths inclusive) can be formed from a character string of length 7? (Assume all characters to be distinct)

A.	23
B.	24
C.	28
✓ D.	29

40 Not Answered

The Generating function for sequence <1,1,1,1,…….> is

✓ A.	1/(1-x)
B.	1/(1+x)
C.	1/(1-2x)
D.	None