1. In how many ways can 10 boys and 5 girls stand in a row so that no two girls are next to each other?

Ans:

1. How many arrangements of the letters a,e,i,o,u,x,x,x,x,x,x,x,x(8x's) are there if no two vowels can be consecutive?

Ans:

1. The number of integers which are relatively prime to 35 are

Ans: 24

1. The exponential generating function which generates the sequence

Ans:

1. How many 4 letter words can be made out (with repetition allowed) of A,C,T,I,O,N in which the letter N appears at most once

Ans:

1. The coefficient of in is

Ans:

1. The generating function to find the number of ways to place k distinct people into 3 rooms with at least one person in each room is

Ans:

1. In how many ways can you form dancing couples from 4 boys and 4 girls so that no boy dances with his respective partner?

Ans: 9

1. In how many ways can you put 8 letters into their respective envelopes such that exactly 4 go into the right envelope?

Ans: 630

1. The number of compositions of 11 into 6 parts are

Ans: 252

1. The number of partitions of 24 into distinct parts equals the coefficient of in the function

Ans:

1. In order to find the number of ways to arrange the letters of the word ENTERTAIN, we find the coefficient of in the generating function

Ans:

1. The generating function for partition of an integer in which is the largest part is 5.

Ans:

1. How many integer solutions are there to the equation with each?

Ans:

1. Which one among them is a self-conjugate partition of 15?

Ans: 54321

1. How many 4 digits numbers made out of the digits 1,2,3,4,5,6 has at least one of the digits repeated?

Ans: 936

1. The Fike’s sequene corresponding to the permutation of the word HEART is

Ans: 1110

1. A five digits number consists of only the digits 2 and 4(with repetition allowed). How many of these are divisible by 4?

Ans: 16

1. The immediate next permutation of 6857 in reverse lexicographical when the initial permutation was 5678 is

Ans: 8657

1. What is the sum of all the four digits numbers made out of 2,3,3,4?

Ans: 39996

QUIZ\_2(1)

1. Let n be a positive integer and be the set of all positive divisors of n. Let R be the relation defined as follows: for any Then the minimal and the maximal elements of the lattice respectively are

Ans: and

1. Which of the following is a totally ordered set?

Ans:

QUIZ\_2(2)

1. Let and be the power set of A. Clearly, forms a lattice. Then length of the longest chain in is

Ans: 4

1. Let }. Define a relation as follows : Further is a lattice. Then =

Ans: 12

QUIZ\_2(3)

1. Which of the following statements is incorrect?
2. An element in a lattice can not have more than one complement. (Ans)
3. In a lattice for any two elements , if a is a complement of b, then b is a complement of a.
4. If an element in a lattice has its complement, then the lattice contains universal upper bound 1 and universal lower bound 0.
5. The universal lower and upper bounds are unique complement of each other.
6. Consider the lattice , where is a nonempty set andis its power set. For any set the complement of is

Ans:

QUIZ\_2(4)

1. Consider the lattice , where is a nonempty set andis its power set. For any set the complement of is

Ans:

1. If a Boolean lattice has elements, out of which 4 are atoms, then is

Ans: 16

QUIZ\_2(5)

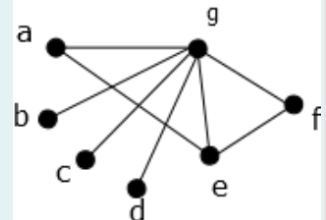
1. Let be a boolean function specified by where . Then

Ans: 0

1. Let be a Boolean function given by . Then in Disjunctive Normal Form is

Ans:

QUIZ\_2(6)



1. For the graph given in the figure, the sum of degrees of all the vertices is

Ans: 16

1. For the graph given in the figure, the number of edges in the graph (the graph obtained from by deleting the vertex

Ans: 2

QUIZ\_2(7)

1. Which of the following is an incorrect statement?
2. There is no self-complementary graph on 6 vertices
3. Every tree on 10 vertices has 9 edges
4. A graph G and its complement have same number of vertices
5. A self-complementary graph G and its complement have same number of edges
6. Which of the following is not a bipartite graph?
7. Complete graph on n vertices
8. Cycle graph on 2n vertices
9. Tree
10. Star graph

QUIZ\_2(8)

1. The number of nonzero entries in the adjacency matrix of a complete graph is

Ans: 12

1. Let be a graph on vertices with the adjacency matrix Then the number of zero entries in is at least is

Ans: n

QUIZ\_2(9)

1. Which of the following is a monoid?
2. where is the set of all natural numbers and is the operation of multiplication (Ans)
3. where is the set of all natural numbers and is the operation of addition
4. where is the set of all natural numbers and | is the operation of division
5. here is the set of all natural numbers and - is the operation of subtraction
6. Which of the following is not a group?
7. Set of all invertible matrices with respect to the operation of matrix multiplication
8. Set of real numbers with respect to the operation of addition
9. Set of all integers with respect to the operation of addition
10. Set of real numbers with respect to the operation of multiplication (Ans)

QUIZ\_2(10):

1. Let be a group under the operation of multiplication. Then which of the following is not a subgroup of G?
2. (Ans)
3. Let be a subgroup of , where set of integers, =Set of even integers. Then the cosets and are
4. Disjoint
5. Identical (ans)
6. Neither disjoint nor identical
7. Contain only identity element in common