**B.TECH (CS) 5TH SEMESTER SESSIONAL IIND EXAM NOVEMBER 2017**

**SUBJECT: DESIGN AND ANALYSIS OF ALGORITHM**

**NOTE: ATTEMPT ALL THE QUESTIONS**

1. The time complexity of an algorithm quantifies the amount of time taken by an algorithm to run according to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

a. number of space b. number of inputs

c. number of outputs d. number of characters

2. Which is not a criterion of algorithm design?

a. Finiteness b. Durability

c. Definiteness d. Efficient

3. How many multiplications can be performed by Strassen’s algorithm for 2 X 2 matrices?

a. 8 b. 9 c. 11 d. 7

4. The complexity of merge sort algorithm is

a. O(n) b. O(log n) c. O(n2) d. O(n log n)

5. Fractional knapsack problem can be solved using…

a. Dynamic programming b. Divide and conquer

c. Greedy approach d. Backtracking

6. Given 2 matrices A & B of size; m x n and n x p. What is the formula for scalar multiplication?

a. mxnxp b. mxnxnxp c. mnxp d. none

7. Which one is the store and forward method to solve the problem?

a. Dynamic programming b. Greedy approach

c. Divide and conquer d. Backtracking

8. Which method is used to solve recurrence relation?

a. Substitution method b. Master Method

c. none d. both a and b

9. Which equation is correct to multiply matrix in Matrix Chain Multiplication problem?

a. m[i,j]=min(m[i,k+1]+m[k+1,j]+pi-1pkpj)

b. m[i,j]=min(m[i,k]+m[k+1,j+1]+pi-1pkpj+1)

c. m[i,j]=min(m[i,k]+m[k+1,j]+pi-1pkpj)

d. m[i,j]=min(m[i,k]+m[k+1,j]+pi-1pk-1pj)

10. How many minimal spanning trees are possible with n nodes?

a. n2 b. n-1c. nn-2 d. 2n