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K. J. Somaiya Institute of Technology, Sion, Mumbai-22  
(Autonomous College Affiliated to University of Mumbai)

May-June 2024  
B.Tech Program: Computer Engineering Scheme IIB  
Supplementary Examination: SY Semester: IV Course Code: CEC402 Course Name: Analysis of Algorithm  
Date of Exam: 27/07/2024 Duration: 2.5 Hours Max. Marks: 60

Instructions:  
(1) All questions are compulsory.  
(2) Draw neat diagrams wherever applicable.  
(3) Assume suitable data, if necessary.

Q. NO	Question	Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	Explain any one asymptotic notation with example	2	1	U
ii)	Explain the general method for divide and conquer strategy.	2	2	U
iii)	What is minimum cost spanning tree.	2	3	U
iv)	What is the difference between dynamic programming and divide and conquer approach.	2	4	An
v)	Differentiate between branch and bound and backtracking approach.	2	5	U
vi)	Solve following problem using master's method $T(n) = 4T(n/2) + n$	2	1	U
vii)	What is the complexity of following problems (i) Bellman ford (ii) All pair shortest path	2	4	U
viii)	Enlist all string matching algorithms and explain any one in short.	2	6	U
Q.2	Solve any four questions out of six.	16		
i)	Explain Naïve string algorithm with example.	4	6	U
ii)	Solve the following problem of the sum of subset and draw portion of state space tree. $w = (5, 7, 10, 12, 15, 18, 20)$ and $m = 35$ .	4	5	Ap
iii)	Find the LCS for following strings. String 1- ACBAED String 2- ABCABE	4	4	Ap

