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MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

PRN:

End Semester Examination

May-June 2023

CET3016B - Analysis of Algorithms

Schedule ID: 18758

Faculty/School	Faculty of Engineering & Technology	**Term**	VI
Program	Third Year B. Tech	**Duration**	**1 Hours 30 Minutes**
Specialization		**Max. Marks**	**40**

Read the instructions provided for every question properly before attempting the answer.

Section - 1 : contain(s) **10** question(s) and each question carries **5** mark(s).You can answer any **8** questions out of **10.**

Click **Finish** only after completion of the Exam.

Section - 1 (8 X 5 Marks)
Answer any 8 questions

1	Solve the recurrence equation with master method. T(n) = 3T(n/2) + n	**5 marks**	CO1	Applying
2	Write a control abstraction for greedy method.	**5 marks**	CO1	Applying
3	Distinguish between dynamic programming and greedy approach.	**5 marks**	CO2	Understanding
4	Solve the following knapsack problem using dynamic programming. Capacity of Knapsack is M=5, Weight=(2,1,3,2), Value=(12,10,20,15).	**5 marks**	CO2	Applying
5	Solve the traveling salesperson problem using dynamic programming. Row 1 [0,9,8,8], Row 2 [12,0,13,6], Row 3 [10,9,0,5], Row 4 [20,15,10,0].	**5 marks**	CO2	Applying
6	State difference between backtracking and recursion.	**5 marks**	CO3	Remembering
7	Write a recursive algorithm using backtracking for Hamiltonian cycle detection.	**5 marks**	CO3	Applying
8	Explain various types of randomized algorithms.	**5 marks**	CO3	Understanding
9	Differentiate between parallel algorithms and sequential algorithms.	**5 marks**	CO4	Analysing
10	What do you mean by non-deterministic algorithms? Explain non-deterministic sorting algorithm.	**5 marks**	CO4	Remembering

END OF QUESTION PAPER