Subject
 AY:2024-25

 Code:
 PC502CM



MATRUSRI ENGINEERING COLLEGE (An Autonomous Institution) 16-1-486, Saidabad, Hyderabad-500059 (Approved by AICTE, Affiliated to Osmania University)



Department of Computer Engineering

B.E. V-SEM Assignment -3

Subject: DAA (PC502CM) Marks: 10 M					
S.No.	Questions		Marks	BL	СО
1	Solve the following 0/1 Knapsack problem using dynamic programming P= (10, 8, 12), W= (2, 3, 7), C=10, n=3.		2 M	L3	СОЗ
2	Let n=4 and (a1,a2,a3,a4) Construct optimal binary search for (a1, a2, a3, a4) = (do, if, int, while), p(1 : 4) = (3,3,1,1) q(0 : 4)= (2,3,1,1,1)		1M	L3	CO3
3	Consider three stages of a system with r1=0.3, r2=0.5, r3=0.2 and c1=30, c2=20, c3=30 Where the total cost of the system is C=80 and u1=2, u2=3, u3=2 find the reliability design.		1 M	L3	CO3
4	Consider 4 elements a1 < a2 < a3 < a4 with q0=0.25 , q1=3/16 , q2=q3=q4=1/16. p1=1/4 , p2=1/8 p3=p4=1/16. (i) Construct the optimal binary search tree as a minimal cost tree. (ii) Construct the table of values Wij, Cij, Vij computed by the algorithm to compute the roots of optimal subtrees		1 M	L3	CO3
5	state and explain FIFO branch and Bound and LIFO branch and bound?		1 M	L3	CO3
6	Write an algorithm for how Eight Queen's problem can be solved using back tracking and explain with an example		1 M	L3	CO3
7	Briefly explain Hamiltonian cycles using backtracking? Write an algorithm for it and explain with an example.		1 M	L3	CO3
8	a) Briefly explain n-queen problem using Backtracking. Explain its applications. b) what is state space tree.explain with an example?		1 M	L3	CO3
9	Draw the portion of state space tree g Knapsack instances: n=5, (P1,P2,P5 = (4, 6, 3, 4, 2) and M = 125	enerated by LCKNAP for the	1 M	L3	CO3