



VIT
Vellore Institute of Technology
(Instituted in the University under section 3 of UGC Act, 1956)

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SLOT: F1 +TF1

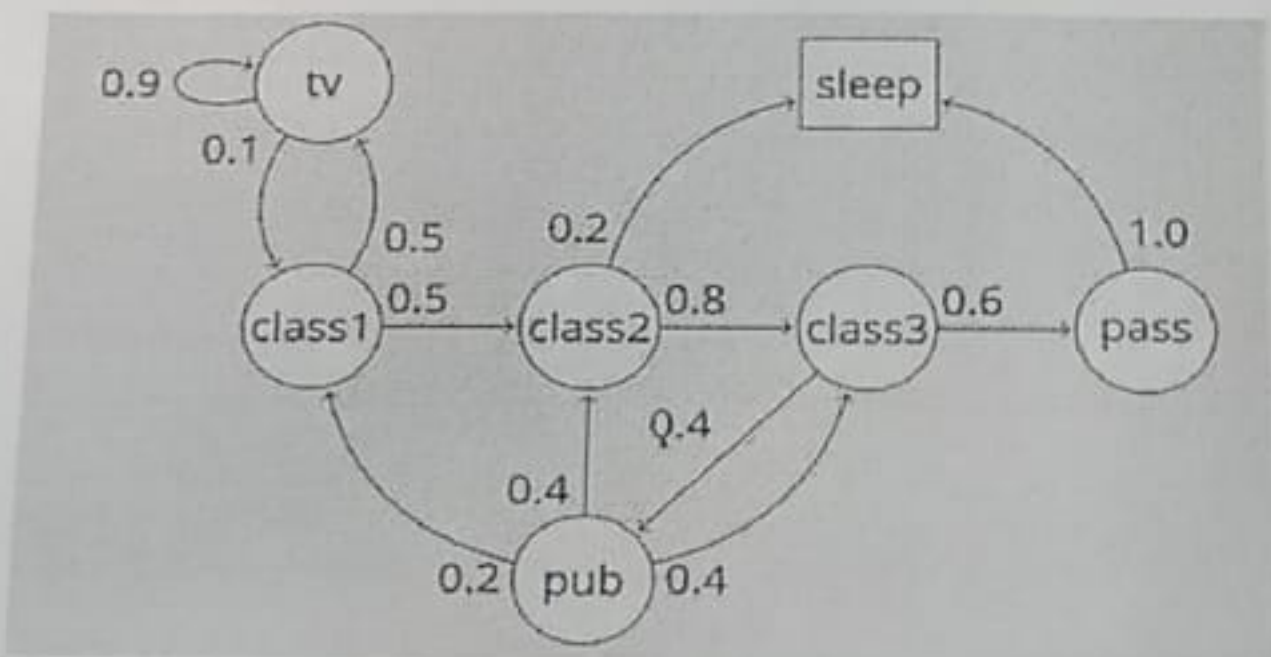
School of Computer Science and Engineering -SCOPE
CONTINUOUS ASSESSMENT TEST - I
WINTER SEMESTER 2025-2026

Programme Name & Branch : B.Tech & SCOPE
Course Code and Course Name : BACSE 432E and Reinforcement Learning
Faculty Name(s) : I.S.Rajay Vedaraj
Class Number(s) : VL2025260503878
Date of Examination : 1/02/26 9.30AM to 11.00AM
Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level (1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- Course Outcomes (CO1- Articulate the fundamental concepts of reinforcement learning underlying finite Markov Decision Processes, Optimal policies, and value functions. CO2- Demonstrate proficiency in implementing/formulating RL algorithms to solve real-world problems with finite state spaces for prediction, control, and planning. CO3- Critically analyze and compare approximate solution methods, policy gradient methods, and actor-critic methods, evaluating the efficiency and trade-offs of these methods for complex reinforcement learning challenges.)

Q. No	Question	M	CO	BL
1.	Define: reinforcement learning and with the neat sketch explain the framework of reinforcement learning environment stating the limitations and scope of reinforcement learning.	10	1	1
2.	Explain the core elements of RL for the following: a) Obstacle avoidance of Robots, b) Helicopter in Auto-pilot mode c) RL based Stock trading.	10	1	1
3.	Explain Finite Markov Decision Process by solving the chain given below: 	10	2	2
4.	Explain about the Optimal Policies and Optimal Value Functions in Reinforced Learning Procedures.	10	2	2
5.	Explain the core components of Temporal Difference with an example in which an agent is formulating the path to the goal with highest reward, assuming the initial values.	10	3	3
