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Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: CDV3411 **Course Name:** Reinforcement Learning for Self-Healing DevOps Pipelines

Semester: Seventh Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	46	44

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Discuss the advantages of RL in DevOps.	2	CO2	BT2
2	Discuss the importance of reward signals in CI/CD pipeline.	2	CO2	BT2
3	List the different stages in SARSA learning process.	2	CO1	BT1
4	Discuss Fully observable vs partially observable environments.	2	CO1	BT2
5	Discuss multi agent environment.	2	CO1	BT2

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Discuss the importance of Deep Q learning in RL.	10	CO1	BT2
7	Discuss State-Action-Reward-State-Action learning process in detail.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Discuss different adaptive testing models for RL DevOps.	10	CO2	BT2
9	In CI/CD Build failure, Analyse the possible event based reward signals you can apply while designing the RL agents.	10	CO2	BT4

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
10	Differentiate goal based agents and utility based agents with proper example.	10	CO1	BT4
11	Discuss Markov Decision Process (MDP) in detail.	10	CO1	BT2

PART E: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
12	Analyze the importance of multi dimensional state representation over simple state represention with proper example.	10	CO2	BT4
13	Discuss any four CI/CD pipeline failure with suitable example.	10	CO2	BT2