

Enroll No

Q.P. Code
UT 3169

Course Code: RAMD 201 Course Name: MDM-I Fundamentals of Robotics & Automation

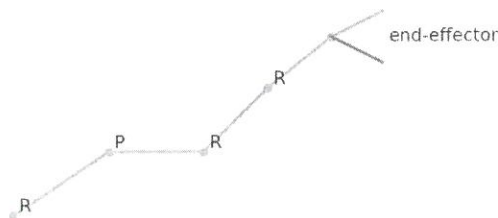
Day & Date: Friday 19/09/2025

Time: 3:45 To 4:45

Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
 - 5) Assume suitable data if necessary.
 - 6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
Q.1	A	Calculate DOF for following Mechanism	4	3	CO_3



OR

A	Determine Eulers angles α , β , γ for the following Rotation Matrix	3	CO_3	
	${}^U_B R = \begin{bmatrix} 0.365 & -0.653 & 0.663 \\ 0.824 & -0.105 & -0.557 \\ 0.433 & 0.750 & 0.500 \end{bmatrix}$			
B	Explain (2) the D-H notations with neat sketch (2).	4	2	CO_3
C	What are Forward dynamics and reverse dynamics (2) write significance of each (1 each).	4	3	CO_3

Q.2	A	Give Detailed Classification (2) of Robot Programming and explain (2) lead through programming.	4	2	CO_4
-----	---	---	---	---	------

OR

A	Explain any two-software used for robot programming (2 Each).	2	CO_4	
B	List (2) all textual programming languages used for robot programming and explain (2) any one in detail.	4	2	CO_4
C	Write functions of keys of Teach pendant (3) and give its current technical modifications (2).	5	4	CO_4

