K.E.Society's

Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to SUK)

Unit Test-01 August 2025

Second Year B.Tech. Robotics and Automation SEMESTER- III

Fundamentals of Robotics and Automation Course Code: RA201

Enroll No

Q.P.Code
UT2924

Day & Date : Monday 11/08/2025

Time : 11:45 TO 12:45

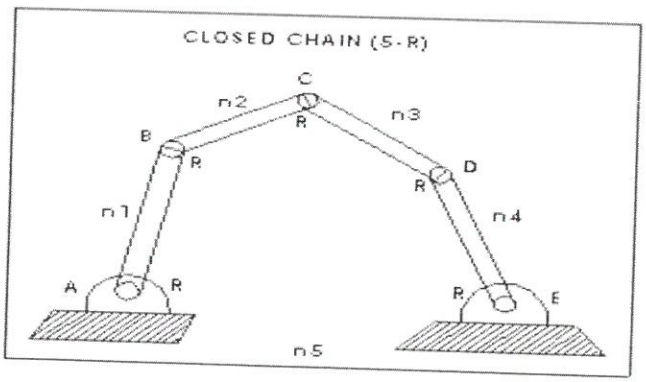
Max Marks- 25

Instructions: 1) All Questions are compulsory

2) Figures to the right indicate full marks

3) Assume suitable data if necessary and mention it clearly

Q. No.	Sub Q. No.	Question Description	CO	Max. Marks
Q.1	(a)	Draw a neat sketch and explain the functions of different components of a Robotic system.	1	06
		OR		
Q.1	(a)	Explain the following specifications of a Robot with appropriate examples. (i) Payload (ii) Reach (iii) Motion Speed	1	06
Q.1	(b)	Draw neat sketches and distinguish between Cartesian Type Robot and Cylindrical type Robot	1	06
Q.2	(a)	Draw a neat sketch of a Robot having 5 Degrees of Freedom and explain its construction and working.	2	05
		OR		
Q.2	(a)	Draw a neat sketch of a Robot having 3 Degrees of Freedom and explain its construction and working.	2	05
Q.2	(b)	What is Degree of Freedom of a Robot? Determine the Degree of Freedom of the Robot shown in the Figure given below.	2	05



Q.2	(c)	Distinguish between Completely constrained motion and Incompletely contrained motion.	2	03

R.I.T. Rajaramnagar Exam Centre