

QP.Code U21ME~1A

Reg.No


KPR Institute of Engineering and Technology
 (Autonomous)

Avinashi Road, Arasur, Coimbatore - 641 407

Dept.:

AIDS, AIML, BM,
CE, CS, EEE

Ac.Yr.: 2024 – 2025

Course Code & Title	:	U21MEX01	INDUSTRIAL ROBOTICS
Year	:	II	Semester: 04
CIAT	:	I	Duration: 90 Minutes
			Date: 26.03.2025 - AN
			Maximum Marks: 60

Q. No	Section – A (10X1=10 Marks) Answer All Questions				Marks	BT	CO
1	Robot configurations refer to				1	U	CO1
	a	Assembly	b	Layout			
	c	Structure	d	Arrangement			
2	Which of the following are types of robots commonly used in industrial settings?				1	U	CO1
	a	Mobile	b	Manipulator			
	c	Mechanical	d	Motorized			
3	Which type of drive system is commonly used in industrial robots for precise control of movement?				1	R	CO1
	a	Pneumatic	b	Hydraulic			
	c	Electric	d	Mechanical			
4	Basic robot motions include:				1	U	CO1
	a	Linear	b	Circular			
	c	Rotary	d	Random			
5	Continues path control in robotics allows for:				1	U	CO2
	a	Realtime	b	Sequential			
	c	Precise	d	Random			
6	What are the tools or devices attached to the end of a robot arm called?				1	R	CO2
	a	Actuators	b	Sensors			
	c	Gripper	d	Controllers			
7	Which type of robot end effector is used to grasp and hold objects securely?				1	U	CO2
	a	Grippers	b	Tools			
	c	Sensors	d	Actuators			
8	What is the term for the interface between a robot and its end effector?				1	R	CO2
	a	Actuation	b	Interpolation			
	c	Integration	d	Interface			
9	Which term refers to the process of converting robot commands into physical movement?				1	U	CO3
	a	Actuation	b	Feedback			
	c	Kinematics	d	Control			
10	What is the primary function of a sensor in a robot system?				1	R	CO3

a	Control	b	Actuation			
c	Feedback	d	Kinematics			

Q.No	Section – B (10X2=20 Marks) Answer All Questions	Marks	BT	CO
11	Definition of robot?	2	R	CO1
12	Explain the types of rotary joints notations	2	R	CO1
13	What is meant by workspace?	2	U	CO1
14	What is meant by accuracy of robot?	2	R	CO1
15	What are the benefits of industrial robots?	2	U	CO2
16	What is repeatability of robot?	2	R	CO2
17	What is work volume?	2	U	CO2
18	What is meant by quality of robot?	2	U	CO2
19	Define range sensor?	2	R	CO3
20	What is proximity sensing?	2	R	CO3

Q.No	Section – C (1X6=6 Marks & 2X12=24 Marks) Answer All Questions	Marks	BT	CO
21 a)	Draw schematic and explain Cartesian coordinate robots advantages and disadvantages	12	U	CO1
(Or)				
21 b)	Draw schematic and explain jointed-arm robots advantages and disadvantages	12	U	CO1
22 a)	Draw schematic and explain jointed-arm robots advantages and disadvantages	12	R	CO2
SCARA (Or)				
22 b)	Explain in brief end effector, uses of end effectors and applications.	12	R	CO2
23 a)	Explain in detail on the point-to-point control in industrial robotics?	6	U	CO3
(Or)				
23 b)	Explain in detail on the continuous path control in industrial robotics?	6	U	CO3