

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BCA DEGREE EXAMINATION MAY 2026
(Sixth Semester)**

Branch – COMPUTER APPLICATIONS

MAJOR ELECTIVE COURSE – II ROBOTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Robot hand is also called _____ i) Manipulator ii) Controller iii) End effector iv) Actuator	K1	CO1
	2	Repeatability of a robot refers to _____ i) Speed ii) Ability to return to same position iii) Load capacity iv) Programming time	K2	CO1
2	3	End effector is attached to _____ i) Base ii) Controller iii) Wrist iv) Sensor	K1	CO2
	4	Mechanical grippers work on _____ i) Suction ii) Friction iii) Magnetic force iv) Adhesion	K2	CO2
3	5	Proximity sensors detect _____ i) Contact ii) Nearby objects without contact iii) Temperature iv) Sound	K1	CO3
	6	Range sensors measure _____ i) Force ii) Distance iii) Speed iv) Power	K2	CO3
4	7	Teach pendant programming is i) Offline ii) Manual teaching iii) AI-based iv) Cloud-based	K1	CO4
	8	Offline programming reduces _____ i) Cost ii) Production downtime iii) Speed iv) Accuracy	K2	CO4
5	9	Perception layer consists of _____ i) Sensors ii) Applications iii) Cloud iv) Browser	K1	CO5
	10	CoAP is designed for _____ i) Constrained devices ii) High-speed servers iii) Satellites iv) Desktop	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Analyze the components of a robotic system with block diagram.	K4	CO1
		(OR)		
	11.b.	Determine the different types of mechanical joints used in robots.		
2	12.a.	Explain the applications of adhesive grippers	K5	CO2
		(OR)		
	12.b.	Illustrate the different types of end effectors.		
3	13.a.	Highlight the characteristics of sensing devices.	K3	CO3
		(OR)		
	13.b.	Distinguish between the proximity and range sensors.		
4	14.a.	Analyze the applications of machine vision.	K4	CO4
		(OR)		
	14.b.	Examine the industrial applications of vision-controlled robotic system.		
5	15.a.	Elucidate on IoT data management and analytics.	K4	CO5
		(OR)		
	15.b.	Discover the communication protocols in IoT.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Draw and explain the mechanical design of a robot.	K4	CO1
2	17	Compare and construct the vacuum and magnetic grippers.	K5	CO2
3	18	Assess the different types of sensors.	K6	CO3
4	19	Explain the requirements of a robot programming language.	K5	CO4
5	20	Demonstrate the Internet of Things resources in the cloud.	K4	CO5

Z-Z-Z

END