

PRN No.	
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Paper Code	
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**MAY 2022-ENDSEM EXAM**  
**B. TECH. (Mechanical) (SEMESTER - VIII)**  
**COURSE NAME: ROBOTICS**  
**COURSE CODE: IOEUA40184A**  
**(PATTERN 2018)**

Time: [1Hr]

[Max. Marks: 30]

**Instructions to candidates:**

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1 a	Interpret the terms HMI, SCADA, IIOT, and Automation?	4	CO4	4
Q.1 b	Simplify the significance of Communication Protocol and its types? Describe any one Communication Protocol.	6	CO4	4
OR				
Q2 a	Simplify working of Relay and find its areas of application?	4	CO4	3
Q2 b	Rephrase your understanding of Industrial Internet of Things? Give a detailed account of design principles of Industry 4.0.	6	CO4	4
Q.3 a	Give and account of language elements and function that are used while programming the robot?	4	CO5	3
Q.3 b	Illustrate with example the Point-to-Point control and Continuous Path control robot?	6	CO5	5
OR				
Q.4 a	Demonstrate programming of Continuous Path control robot.	4	CO5	4
Q.4 b	Examine 3 types of interpolation and how do we use it in programming?	6	CO5	4

Q.5 a	Give a detailed account of different types costs associated with Installation of Robotic systems.	4	CO6	3
Q.5 b	Does robotics have any real potential to enhance people's lives by, for example, relieving them of dangerous work?	6	CO6	3
OR				
Q.6 a	Dictate the formulae for calculation payback period, downtime, and Productivity?	4	CO6	4
Q.6 b	Robots lead to rise in Unemployment. Debate.	6	CO6	4