



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:II
Class:FY	Program:B.Tech
Branch Code:ROB	Pattern:2023
Name of Course:Fundamentals of Robotics	Course Code:2300118H
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 02 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

- 1a) What is the concept of Robotic Actuator? Explain types of Robotic Actuator in detail. (6) CO1, CO2

Question No. 2 Attempt following Question

- 2a) What is Gripper? Explain Concept of Gripper when used as end effector with its working Principal. (6) CO3, CO5

Question No. 3 Attempt following Question

- 3a) What is mean by Tactile sensors? Explain working Principal of tactile sensors along with explanation of any two real life examples. (8) CO3, CO5

OR

- 3b) What is Mean by Proximity Sensors? Explain working Principal of proximity sensors along with explanation of any 2 real life examples. (8) CO3, CO5

- 3c) What is mean by Robot vision System? State and Explain steps involved in this Process. (8) CO3, CO5

OR

- 3d) What is the Concept of Magnetic Sensors? Explain working principal of Magnetic Sensors along with explanation of its real life examples. (8) CO3, CO5

Question No. 4 Attempt following Question

- 4a) What is PLC? Explain PLC Controller in detail. (8) CO4, CO5

OR

4b) Explain playback robot along with point to point control in detail. (8) CO4, CO5

4c) Explain playback robot along with continuous path control in detail. (8) CO4, CO5

OR

4d) What is mean by Robot Controller? Explain limited sequence controller in detail. (8) CO4, CO5

Question No. 5 Attempt following Question

5a) Write a short note on various robot programming languages in detail. (8) CO4, CO5

OR

5b) Compare Textual and Non-textual programming in detail on any 6 points along with its explanation. (8) CO4, CO5

5c) Enlist any 6 software tools for offline programming along with valid explanation. (8) CO4, CO5

OR

5d) Explain the concept of : (8) CO4, CO5

I) Lead through programming

II) Lead through teaching

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