



CBCS SCHEME

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21MT63

Sixth Semester B.E. Degree Examination, June/July 2024 Industrial Robotics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With a neat sketch, explain various physical configuration of robot. (10 Marks)
b. What is robot drive system? Explain different types of drive system. (10 Marks)

OR

- 2 a. Explain precision of movement with its three features. (10 Marks)
b. Write a note on sensors, end effectors, control system and work cell. (10 Marks)

Module-2

- 3 a. Illustrate the configuration of a robot controller with a block diagram. (10 Marks)
b. List the factors in the selection of design of grippers. (10 Marks)

OR

- 4 a. Explain proximity sensor and mention the user of sensors in robotics. (10 Marks)
b. What are transducers? Explain analog and digital transducers. (10 Marks)

Module-3

- 5 a. Explain any 2 methods of robot programming. (10 Marks)
b. Write a note on WAIT, SIGNAL, DELAY commands. (10 Marks)

OR

- 6 a. Describe robot paradigms in AI. (10 Marks)
b. Define AI and discuss the goals of AI research. (10 Marks)

Module-4

- 7 a. Explain in detail robot cell layout. (10 Marks)
b. Write a note on multiple robots and machine interference. (10 Marks)

OR

- 8 a. What are the functions of work cell controller? Explain. (10 Marks)
b. Briefly explain any 5 considerations in work-cell design. (10 Marks)

Module-5

- 9 a. Write a note on machine vision inspection system. (10 Marks)
b. Explain about compliance and the remote center compliance device. (10 Marks)

OR

- 10 a. Discuss the spot welding, Arc welding and spray coating in detail. (10 Marks)
b. Mention any 10 over all applications of robotics. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.