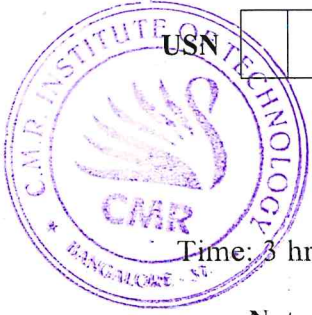


CBGS SCHEME

15ME563



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Fifth Semester B.E. Degree Examination, Aug./Sept. 2020 Automation & Robotics

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Define Automation. Explain types of Automations. (08 Marks)
b. List & describe Automation principles and strategies. (08 Marks)

OR

- 2 a. Describe basic components of FMS. (08 Marks)
b. Explain different types of layouts of FMS. (08 Marks)

Module-2

- 3 a. Explain robot configurations with neat diagram. (08 Marks)
b. Explain various methods involved in programming the robot. (08 Marks)

OR

- 4 a. Describe technical features involved in the robots. (08 Marks)
b. With a neat sketch, briefly explain two end effectors. (08 Marks)

Module-3

- 5 a. Describe closed and open loop control system with examples. (08 Marks)
b. Explain PI, P, PID controllers with neat diagram. (08 Marks)

OR

- 6 a. Explain potentiometer and encoders. (08 Marks)
b. Describe actuators. (08 Marks)

Module-4

- 7 a. Explain the types of Robotic sensors. (08 Marks)
b. Describe about robot sensing. (08 Marks)

OR

- 8 Explain MVS with neat diagram. (16 Marks)

Module-5

- 9 a. Explain graph search technique with example. (08 Marks)
b. Explain the flow chart for ends analysis. (08 Marks)

OR

- 10 a. What is AI? Differentiate with programming without AI and programming with AI. (08 Marks)
b. List and explain the application of AI. Differentiate between speech of voice recognition. (08 Marks)

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.

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