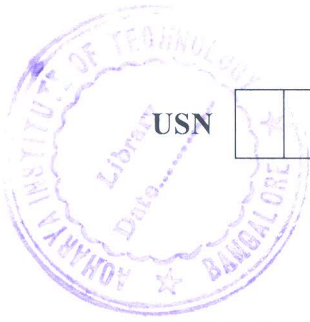


CBCS SCHEME



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15ME563

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)

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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.