



CBCS SCHEME

15MT562

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Automation in Manufacturing

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain manufacturing support system with a block diagram. (08 Marks)
b. List and explain Automation principles and Strategies. (08 Marks)

OR

- 2 a. Describe manufacturing operations. (08 Marks)
b. Briefly explain the following terms with mathematical model : i) Production rate (Rp)
ii) Production capacity iii) Manufacturing lead time (MLT) iv) Work in process (WIP). (08 Marks)

Module-2

- 3 a. Explain basic elements of an automated system with suitable block diagram. (10 Marks)
b. Distinguish between Continuous and Discrete control. (06 Marks)

OR

- 4 a. Differentiate between Traditional and Modern view of quality control. (08 Marks)
b. Explain Off – line and On – line quality control. (08 Marks)

Module-3

- 5 a. Explain components of Manufacturing system. (08 Marks)
b. Describe Single Station Automated Cells. (08 Marks)

OR

- 6 a. Explain Computer – aided process planning in detail. (10 Marks)
b. Define the following : i) Just in time production ii) Concurrent engineering
iii) Lean manufacturing. (06 Marks)

Module-4

- 7 a. Describe Coordinate Measuring Machines (CMM) construction, with suitable diagram. (08 Marks)
b. Write a short note on : CMM application and benefits. (08 Marks)

OR

- 8 a. Explain Machine vision applications. (08 Marks)
b. Explain with a neat sketch, Scanning Laser device for inspection. (08 Marks)

Module-5

- 9 a. Define Group technology. Explain part classification and coding. (10 Marks)
b. Explain Composite Part concept in cellular manufacturing. (06 Marks)

OR

- 10 a. List basic components of Flexible Manufacturing Systems (FMS) and explain any one component in detail. (10 Marks)
b. Describe FMS planning and design issues. (06 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.