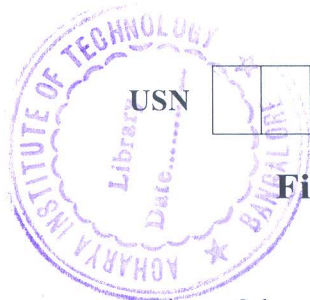


CBCS SCHEME



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15MT562

Fifth Semester B.E. Degree Examination, July/August 2021 Automation in Manufacturing

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1 a. List and explain the strategies for automation and process improvement. (08 Marks)
b. Define production system with a neat sketch. Explain categories of manufacturing system. (08 Marks)
- 2 a. Describe the medium and high production. (08 Marks)
b. Define the following :
i) Utilization and availability
ii) Production capacity
iii) Manufacturing lead time
iv) Cycle time. (08 Marks)
- 3 a. Explain Feedback control system for an automated system. (08 Marks)
b. With a neat sketch, explain five levels of automation and control in manufacturing. (08 Marks)
- 4 a. Explain Traditional view of quality. (08 Marks)
b. Explain Robust Design and Taguchi loss function. (08 Marks)
- 5 a. List and explain components of 'Manufacturing system'. (08 Marks)
b. Explain single station cell and multi station cells. (08 Marks)
- 6 a. With a block diagram, explain advanced manufacturing system. (08 Marks)
b. Define the following :
i) Concurrent Engineering
ii) Just in Time
iii) Lean Manufacturing
iv) Agile Manufacturing. (08 Marks)
- 7 a. What is inspection? Explain construction and working of C.M.M. (08 Marks)
b. Write the application and benefits of C.M.M. (08 Marks)
- 8 a. With a neat sketch working principle of Laser device for inspection. (08 Marks)
b. With a neat sketch, explain basic function of 'Machine Vision System'. (08 Marks)
- 9 a. List and explain the application of group technology. (08 Marks)
b. What is group technology? Explain benefits of group technology. (08 Marks)
- 10 a. List and explain the application of FMS. (08 Marks)
b. Explain the basic components of FMS. (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.