

**Code No: 127AR****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, October/November - 2020****AUTOMATION IN MANUFACTURING****(Mechanical Engineering)****Time: 2 Hours****Max. Marks: 75****Answer any Five Questions  
All Questions Carry Equal Marks**

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- 1.a) List out Mechanical feeding systems and Explain any one with neat sketch. [7+8]  
b) Explain NC method machine tool control. [7+8]
2. Describe the pneumatic and hydraulic components circuits used in Automated machine tools, and compare their relative merits and limitations. [15]
- 3.a) Explain the Reasons for using Storage buffers in automated production lines. [7+8]  
b) Write short notes on analysis of transfer lines with buffer storage. [7+8]
4. Analyze a two – stage automatic flow line, and discuss the results. [15]
- 5.a) Write a short notes on work transport system used in manual assembly lines. [8+7]  
b) Explain the principles of Design for assembly. [8+7]
- 6.a) Define the following:  
i) Line efficiency ii) Balancing efficiency iii) Repositioning efficiency. [8+7]  
b) List out the Line Balancing algorithms. Explain any one. [8+7]
- 7.a) Explain the advantages and limitations of Automated storage systems and conventional storage systems. [15]  
b) List the types and applications of automated storage and retrieval systems. [8+7]
8. What is 'Business process Re-engineering'? How does it work? Explain the reasons as to why the Companies use Business Process Reengineering? [15]

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