

Code :R7420307

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IV B.Tech II Semester(R07) Regular Examinations, April 2011
AUTOMATION IN MANUFACTURING
(Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. Explain the advantages of automation in machine tools.
2. Explain various factors to be considered while designing automated flow lines.
3. Explain the analysis of any transfer line of your choice without a buffer storage.
4. Explain the suitability of applying various line balancing methods for various situations.
5. Explain the advantages of using automated storage systems.
6. Explain the working of an automated guided vehicle system with a neat sketch.
7. Discuss the applications of adaptive control in machining operations in detail.
8. What is concurrent engineering? Explain the advantages of it over conventional engineering.

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(Mechanical Engineering)

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Answer any FIVE questions
All questions carry equal marks

1. Explain the importance of automation in machine tools.
2. What is buffer storage control function? Discuss about its functions.
3. What are the important factors to be considered for the implementation of automated flow lines?
4. How is line balancing done in flexible assembly lines?
5. What is meant by work in process storage? What are the various ways of handling it?
6. What are advantages of automated material handling system over a conventional material handling system.
7. What is meant by adaptive control with optimization? Explain with an example.
8. Explain various techniques used in rapid prototyping with neat sketches.

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Answer any FIVE questions
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1. Explain various types of automation in detail.
2. What are the various methods available for work part transport in an automated factory? Discuss.
3. What is partial automation? How are the automated flow lines practically implemented in that situation?
4. Explain various ways of improving line balance in an automated system.
5. Explain various methods of interfacing material handling and storage system with manufacturing.
6. Discuss the important factors to be considered in designing a material handling system which is automated for a manufacturing unit.
7. What is meant by adaptive control? What is the need of it? Explain.
8. What is Re-engineering? Explain how it is different from concurrent engineering.

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Time: 3 hours

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Answer any FIVE questions
All questions carry equal marks

1. Explain various strategies of automation in detail.
2. What are the various factors to be considered while fabricating automated flow lines?
3. Explain the procedure for the analysis of any transfer line with a buffer storage.
4. Explain the importance of line balancing in an automated factory.
5. Explain the working of an automated storage and retrieval system.
6. Explain the functions of various equipment, present in an automated material handling system.
7. What is meant by adaptive control with constraints? Explain with an example.
8. What is meant by BPE logistics? Discuss its software configuration.

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