

No. of Printed Pages : 03

Roll No. ....

**BB-81**

**M. Tech. EXAMINATION, May 2017**

(Second Semester)

(B. Scheme) (Main & Re-appear)

(ME)

MEI-502-B

MODELING AND SIMULATION OF  
MANUFACTURING SYSTEM

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit.

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**P.T.O.**

### **Unit I**

1. Discuss the steps in a simulation study. What are the advantages and pitfalls of a simulation study ? **15**
2. What is meant by terminating simulation condition ? What are the considerations in a simulation study of a system with random inputs ? **15**

### **Unit II**

3. Run the process of hand simulation for a two machine manufacturing system having three job types. Consider appropriate process times and process sequence to find out the make span time for total 6 jobs, each 2 in number. Assume all required parameters. **15**
4. With the help of a simple case discuss the process of simulation for a Flexible manufacturing system. **15**

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### **Unit III**

5. Discuss the following briefly : **15**
  - (a) Vendor Managed Inventory
  - (b) Postponement.
6. Discuss the schematics of simulation for a (s, S) inventory control systems. Also emphasize the industrial scenario under which these are followed. **15**

### **Unit IV**

7. For a 4-factor simulation experiment each with two levels, design a full factorial design. Derive expression for main and interaction effects of these. **15**
8. Discuss the role of generic programming languages in developing a simulation model. What are the advantages of application software for simulation ? Name some of these packages. **15**

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**100**