

**IV B. TECH I SEMESTER REGULAR EXAMINATIONS, NOVEMBER - 2023**  
**INDUSTRIAL ENGINEERING AND MANAGEMENT**  
**(MECHANICAL ENGINEERING)**

Time: 3 hours

Max. Marks: 70

**Note : Answer ONE question from each unit (5 × 14 = 70 Marks)**

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UNIT-I

1. a) Briefly discuss about the functions of management. [7M]  
b) Compare theory 'x' and theory 'y' assumptions of human relations. [7M]

(OR)

2. a) Briefly explain the principles of management given by Henry Fayol. [7M]  
b) Explain Maslows theory of human needs. [7M]

UNIT-II

3. Illustrate the procedure of CRAFT algorithm with suitable example [14M]

(OR)

4. a) Differentiate MRP and CRP. [7M]  
b) Explain the importance of BOM in MRP and how demand affects BOM. [7M]

UNIT-III

5. a) List various components of a machine automation system. Explain. [7M]  
b) Discuss Human Machine Interface in PLC. [7M]

(OR)

6. a) Describe in detail the anatomy of an industrial robot. [7M]  
b) Define Flexible Manufacturing System and explain the components of FMS. [7M]

UNIT-IV

7. a) Explain O.C. Curve in detail. What is its purpose in sampling plan. [7M]  
b) Write short notes on the following : Average outgoing quality (AOQ) and Average sample number (ASN). [7M]

(OR)

8. a) Define time study. Write the procedure involved in conducting time study. [7M]  
b) Explain how a high productive design of a work place layout can be made with the concept of Ergonomics motion economy. [7M]

**UNIT-V**

9. a) Explain the implementation procedure of value engineering [7M]  
b) Explain the concept of supply chain management and the parameters that influence the supply chain design. [7M]

(OR)

10. a) State the difference between PERT and CPM in project management. [4M]  
b) Consider the Project with the following precedence relationship: [10M]

| Activity        | A | B | C | D   | E | F   | G   | H |
|-----------------|---|---|---|-----|---|-----|-----|---|
| Predecessor     | - | A | A | B,C | C | B,C | D,E | C |
| Duration (days) | 5 | 2 | 3 | 7   | 4 | 5   | 6   | 3 |

Construct the network diagram and Identify the project completion time

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