



Roll No. 

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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. (Full Time) - END SEMESTER EXAMINATIONS, MAY 2025

MECHANICAL ENGINEERING

Sixth Semester

*ME5351* GE5552 ENGINEERING MANAGEMENT

(Regulation2019)

Time: 3 Hours

Max. Marks: 100

|     |   |
|-----|---|
| CO1 | Explain basic concepts of management; approaches to management; contributors to management studies; various forms of business organization and trade unions function in professional organizations. |
| CO2 | Apply various functions of management in professional organization.   |
| CO3 | Apply organizational theory in professional organization.   |
| CO4 | Apply the principles of productivity and operations management in professional organization.  |
| CO5 | Apply modern concepts and marketing in management in professional organization.   |

BL – Bloom's Taxonomy Levels

(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

**PART- A (10 x 2 = 20 Marks)**

(Answer all Questions)

| Q. No. | Questions   | Marks | CO | BL |
|--------|---|-------|----|----|
| 1      | Is management a science or an art? Can this also apply to engineering management?     | 2     | 1  | 2  |
| 2      | List examples of economic factors affecting business.                                 | 2     | 1  | 1  |
| 3      | Differentiate between strategic and operational plans.                                | 2     | 2  | 2  |
| 4      | List the elements of decision making.   | 2     | 2  | 1  |
| 5      | State any four maintenance factors according to Herzberg's motivation-hygiene theory. | 2     | 3  | 1  |
| 6      | What are the positive aspects of organizational conflict?                             | 2     | 3  | 1  |
| 7      | List the various internal factors affecting productivity.                             | 2     | 4  | 1  |
| 8      | Define the critical path in project management  | 2     | 4  | 1  |
| 9      | Differentiate between demographic and psychographic segmentation.                     | 2     | 5  | 2  |
| 10     | What is e-marketing?  | 2     | 5  | 1  |

**PART- B (5 x 13 = 65 Marks)**

| Q.No.     | Questions  | Marks | CO | BL |
|-----------|--|-------|----|----|
| 11 (a)    | Apply Taylor's principles and Mintzberg's managerial roles to improve interdepartmental coordination in a two-wheeler manufacturing company.                           | 13    | 1  | 3  |
| <b>OR</b> |  |       |    |    |
| 11 (b)    | Analyze the suitability of different forms (sole proprietorship, partnership and private company) of business organization for a startup in the electric car industry. | 13    | 1  | 3  |
| 12 (a)    | Demonstrate how functional and geographic departmentalization can be implemented in a multinational automobile company.  | 13    | 2  | 3  |

**OR**

|        |  |    |   |   |
|--------|--|----|---|---|
| 12 (b) | Illustrate how a leader operating at a '5.5' (middle-of-the-road) position on Blake and Mouton's Managerial Grid could shift toward a '9.9' (team style) leadership approach to enhance team productivity. | 13 | 2 | 3 |
|--------|--|----|---|---|

|        |  |    |   |   |
|--------|--|----|---|---|
| 13 (a) | Compare the differences and similarities between Maslow's and McClelland's theories in explaining what motivates employees, and discuss their application in real-world organizations. | 13 | 3 | 3 |
|--------|--|----|---|---|

**OR**

|        |   |    |   |   |
|--------|---|----|---|---|
| 13 (b) | Apply Lewin's Process of Change Model to implement a major organizational restructuring initiative. | 13 | 3 | 3 |
|--------|---|----|---|---|

|        |  |    |   |   |
|--------|--|----|---|---|
| 14 (a) | Determine an initial basic feasible solution to the following transportation problem by using (a) Least Cost Method (LCM) and (c) Vogel's Approximation Method (VAM) | 13 | 4 | 4 |
|--------|--|----|---|---|

|        |    | Destination |     |     |     | Supply |
|--------|----|-------------|-----|-----|-----|--------|
|        |    | S1          | D1  | D2  | D3  |        |
| Source | S1 | 11          | 13  | 17  | 14  | 250    |
|        | S2 | 16          | 18  | 14  | 10  | 300    |
|        | S3 | 21          | 24  | 13  | 10  | 400    |
|        |    | Demand      | 200 | 225 | 275 | 250    |

**OR**

|        |  |    |   |   |
|--------|--|----|---|---|
| 14 (b) | A departmental head has four subordinates and four tasks to be performed. The subordinates differ in efficiency and the tasks differ in their intrinsic difficulty. His estimates of the times that each man would take to perform each task is given in the matrix below: | 13 | 4 | 4 |
|--------|--|----|---|---|

|              |   | Tasks |    |     |    | Supply |
|--------------|---|-------|----|-----|----|--------|
|              |   | I     | II | III | IV |        |
| Subordinates | A | 8     | 26 | 17  | 11 | 250    |
|              | B | 13    | 28 | 4   | 26 | 300    |
|              | C | 38    | 19 | 18  | 15 | 400    |
|              | D | 19    | 26 | 24  | 10 |        |

How should the tasks be allocated to subordinates so as to minimize the total man-hours?

|        |   |    |   |   |
|--------|---|----|---|---|
| 15 (a) | Illustrate how a company could use SWOT analysis to evaluate its current position and develop a competitive strategy. | 13 | 5 | 3 |
|--------|---|----|---|---|

**OR**

|        |   |    |   |   |
|--------|---|----|---|---|
| 15 (b) | Using the concept of Business Process Re-engineering (BPR), design a strategy for improving operational efficiency in a manufacturing firm. | 13 | 5 | 3 |
|--------|---|----|---|---|

**PART- C(1x 15=15 Marks)**

(Q.No.16 is compulsory)

| Q.No.  | Questions  | Marks | CO | BL |
|--------|--|-------|----|----|
| 16.(i) | Design a communication framework to enhance team collaboration in a diverse workplace, integrating cultural, linguistic, and technological considerations.         | 7     | 3  | 5  |
| (ii)   | Design a strategy to improve productivity in a manufacturing company facing declining output by considering factors such as technology, workforce, and management. | 8     | 4  | 5  |