



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY
PUTTUR (AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road - 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: IEM (18ME0330)

Course & Branch: B.Tech - MECH

Year & Sem: III-B.Tech & II-Sem

Regulation: R18

UNIT - I

CONCEPTS OF MANAGEMENT

| | | | | |
|-----------|----------|--|-----------|-------|
| 1 | a | Define Management and Administration | [L1][CO1] | [2M] |
| | b | Compare Theory X and Theory Y | [L2][CO1] | [2M] |
| | c | What are the basic dissimilarities between Authority and Power | [L1][CO1] | [2M] |
| | d | Construct the Organizational chart of your college. | [L3][CO2] | [2M] |
| | e | How an accountability is important for an Organization | [L1][CO2] | [2M] |
| 2 | a | Summarize the important characteristics of management. | [L2][CO1] | [5M] |
| | b | Name and describe the various levels of management with their functions. | [L1][CO1] | [5M] |
| 3 | a | State and explain the Taylor's principles of scientific management. | [L2][CO1] | [5M] |
| | b | State and explain the Fayol's principles of management. | [L2][CO1] | [5M] |
| 4 | a | State and explain the Douglas Mc-Gregor's Theory X and Theory Y. | [L2][CO1] | [5M] |
| | b | Discuss about the Hertzberg's Two factor theory of motivation. | [L6][CO1] | [5M] |
| 5 | a | Explain the Mayo's Hawthorne experiments. | [L2][CO1] | [5M] |
| | b | Explain the Maslow's Hierarchy of human needs. | [L2][CO1] | [5M] |
| 6 | a | "Management is the art of getting things done through and with the people", Interpret | [L2][CO1] | [5M] |
| | b | Discuss the systems approach to management. | [L6][CO1] | [5M] |
| 7 | | Explain the process of organization. | [L2][CO2] | [10M] |
| 8 | a | Explain the principles of Organization. | [L2][CO2] | [5M] |
| | b | Discuss in detail about the organizational structures. | [L6][CO2] | [5M] |
| 9 | | Classify the organizations and write its merits and demerits. | [L4][CO2] | [10M] |
| 10 | a | Discuss about departmentation with their merits and demerits | [L2][CO2] | [5M] |
| | b | Discuss about the decentralization and their merits and demerits. | [L2][CO2] | [5M] |

UNIT - II**PLANT LOCATION & PLANT LAYOUT**

| 1 | a | Define Material Handling system | [L1][CO2] | [2M] | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|-------------------|---|----------------|-------------------|-------------------------|---|------------|--------|-----|---------------|--------|---|---------------------|---------|---|--------------|--------|-------|--------------|---------|---|--------------|---------|-----|----------------|---------|-----------|-----------|------|
| | b | Why the material handling systems are important in industries? | [L1][CO2] | [2M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| | c | Summarize the incentives given by Government agencies for setting up a plant. | [L2][CO2] | [2M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| | d | Name the industries in which product layout is used. | [L1][CO2] | [2M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| | e | List the types of plant layout. | [L1][CO2] | [2M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | What are the factors governing the plant location. Explain with any one specific industry. | [L1 & L2][CO2] | [10M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | <p>Determine the minimax location for the new equipment installation for the company which is interested in locating a new costly fire fighting equipment in the foundry. In foundry, there are seven shops whose coordinates are summarized in the following table shown below.</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Sl. No</th> <th>Existing facility</th> <th>Coordinates of Centroid</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Sand Plant</td> <td>10, 20</td> </tr> <tr> <td>2</td> <td>Moulding Shop</td> <td>30, 40</td> </tr> <tr> <td>3</td> <td>Pattern Shop</td> <td>10, 120</td> </tr> <tr> <td>4</td> <td>Melting Shop</td> <td>10, 60</td> </tr> <tr> <td>5</td> <td>Fetling Shop</td> <td>30, 100</td> </tr> <tr> <td>6</td> <td>Gouging Shop</td> <td>30, 140</td> </tr> <tr> <td>7</td> <td>Annealing Shop</td> <td>20, 190</td> </tr> </tbody> </table> | Sl. No | Existing facility | Coordinates of Centroid | 1 | Sand Plant | 10, 20 | 2 | Moulding Shop | 30, 40 | 3 | Pattern Shop | 10, 120 | 4 | Melting Shop | 10, 60 | 5 | Fetling Shop | 30, 100 | 6 | Gouging Shop | 30, 140 | 7 | Annealing Shop | 20, 190 | [L5][CO2] | [10M] | |
| Sl. No | Existing facility | Coordinates of Centroid | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sand Plant | 10, 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Moulding Shop | 30, 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Pattern Shop | 10, 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Melting Shop | 10, 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Fetling Shop | 30, 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Gouging Shop | 30, 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Annealing Shop | 20, 190 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | What are advantages and disadvantages of urban and suburban locations for a plant? Compare rural and urban sites for the location of the plant | [L1 & L2][CO2] | [10M] | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | a | <p>Determine the best location using factor rating method. The factor rating and location score for location alternatives for three locations A, B & C are shown below.</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Factor</th> <th>Weight</th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>Cost</td> <td>0.3</td> <td>10</td> <td>9</td> <td>7</td> </tr> <tr> <td>Proximity to Source</td> <td>0.2</td> <td>7</td> <td>3</td> <td>10</td> </tr> <tr> <td>Taxes</td> <td>0.1</td> <td>7</td> <td>5</td> <td>10</td> </tr> <tr> <td>Labor</td> <td>0.4</td> <td>6</td> <td>8</td> <td>5</td> </tr> </tbody> </table> | Factor | Weight | A | B | C | Cost | 0.3 | 10 | 9 | 7 | Proximity to Source | 0.2 | 7 | 3 | 10 | Taxes | 0.1 | 7 | 5 | 10 | Labor | 0.4 | 6 | 8 | 5 | [L5][CO2] | [5M] |
| Factor | Weight | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cost | 0.3 | 10 | 9 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proximity to Source | 0.2 | 7 | 3 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Taxes | 0.1 | 7 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Labor | 0.4 | 6 | 8 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | b | Determine the location for a warehouse which will minimize the total distance to supply the four cities. with volume of demand and (x, y) coordinates are given | [L5][CO2] | [5M] | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | <table border="1"> <thead> <tr> <th><u>Location</u></th> <th><u>Volume</u></th> </tr> </thead> <tbody> <tr> <td>Chicago</td> <td>200</td> </tr> <tr> <td>Pittsburgh</td> <td>100</td> </tr> <tr> <td>New York</td> <td>100</td> </tr> <tr> <td>Atlanta</td> <td>200</td> </tr> </tbody> </table> | <u>Location</u> | <u>Volume</u> | Chicago | 200 | Pittsburgh | 100 | New York | 100 | Atlanta | 200 | | |
|-----------------|---|--|-----------------|---------------|---------|-----|------------|-----|----------|-----|---------|-----|--|--|
| <u>Location</u> | <u>Volume</u> | | | | | | | | | | | | | |
| Chicago | 200 | | | | | | | | | | | | | |
| Pittsburgh | 100 | | | | | | | | | | | | | |
| New York | 100 | | | | | | | | | | | | | |
| Atlanta | 200 | | | | | | | | | | | | | |
| 6 | Classify the different types of plant layout. Explain the process layout and product layout with its merits and demerits | [L2][CO2] | [10M] | | | | | | | | | | | |
| 7 | Discuss in detail the basic requirements and procedure for CRAFT technique. | [L6][CO2] | [10M] | | | | | | | | | | | |
| 8 | Discuss in detail the basic requirements and procedure for ALDEP technique. | [L6][CO2] | [10M] | | | | | | | | | | | |
| 9 | What are the various data analyzing forms in plant layout? Explain them in detail. | [L1 & L5][CO2] | [10M] | | | | | | | | | | | |
| 10 | Explain the importance of travel chart in effective layout of a production plant. Prepare a travel chart for a hypothetical engineering concern with 4 functional departments, i.e. foundry, machining, welding and inspection. | [L5][CO2] | [10M] | | | | | | | | | | | |

UNIT - III**WORK STUDY & WORK MEASUREMENT**

| | | | | |
|-----------|----------|--|----------------|-------|
| 1 | a | What is work study? | [L1][CO4] | [2M] |
| | b | What is time study? | [L1][CO4] | [2M] |
| | c | List objectives of method study. | [L1][CO4] | [2M] |
| | d | What is the purpose of Templates and Models? | [L1][CO4] | [2M] |
| | e | What are the benefits of Work Measurement? | [L1][CO4] | [2M] |
| 2 | | Define Work Study. State its objectives. Compare Method Study and Work Measurement | [L1 & L2][CO4] | [10M] |
| 3 | | State and explain the steps involved in method study procedure. | [L1 & L2][CO4] | [10M] |
| 4 | a | Explain the various method study symbols in detail. | [L2][CO4] | [5M] |
| | b | Compare outline process chart and flow process chart | [L2][CO4] | [5M] |
| 5 | | Explain the various types of charts available for recording the data in detail. | [L2][CO4] | [10M] |
| 6 | a | What are the typical questions used in operation analysis with respect to material shape, equipment, tool, and other aspects of the operation and elements of operation? | [L1][CO4] | [5M] |
| | b | What is the purpose of string diagram and explain it with an example | [L1 & L2][CO4] | [5M] |
| 7 | a | Discuss the SIMO chart with an example. | [L6][CO4] | [5M] |
| | b | What is therblings? List the table with details. | [L1][CO4] | [5M] |
| 8 | | Discuss various methods or techniques of work measurement | [L6][CO4] | [5M] |
| 9 | | What measurements are to be done in a stop watch time study? Discuss briefly how they are done? | [L1 & L6][CO4] | [10M] |
| 10 | | What is performance rating? Discuss about various methods of performance rating | [L1 & L6][CO4] | [10M] |

UNIT - IV**MANAGERIAL ECONOMICS & MARKETING**

| | | | | |
|-----------|----------|---|-----------|-------|
| 1 | a | Explain the concepts of Managerial Economics. | [L2][CO5] | [2M] |
| | b | What is meant by Demand Analysis? | [L1][CO5] | [2M] |
| | c | Define Law of Demand. | [L2][CO5] | [2M] |
| | d | What are the exceptions to the law of Demand? | [L1][CO5] | [2M] |
| | e | Define Elasticity of demand. | [L1][CO5] | [2M] |
| | f | What are the types of Elasticity of demand? | [L1][CO5] | [2M] |
| | g | Define Demand Forecasting. | [L1][CO5] | [2M] |
| | h | Classify the types Markets? | [L2][CO5] | [2M] |
| | i | Define perfect competition. | [L1][CO5] | [2M] |
| | j | Define imperfect competition. | [L1][CO5] | [2M] |
| 2 | | What do you mean by elasticity of demand? What are the factors governing the elasticity of demand: | [L1][CO5] | [10M] |
| 3 | | Explain briefly the following opinion survey methods of forecasting: (i) Consumers' opinion survey (ii) Delphi method | [L5][CO5] | [10M] |
| 4 | | Explain briefly the following opinion survey methods of forecasting: (i) Sales force opinion survey method (ii) End-use method. | [L5][CO5] | [10M] |
| 5 | | Explain briefly statistical methods of forecasting. (i) Moving average method (ii) Leading indicators method | [L5][CO5] | [10M] |
| 6 | | Explain briefly statistical methods of forecasting. (i) Regression method (ii) Trend projection method | [L5][CO5] | [10M] |
| 7 | | Classify and explain the types of markets. | [L2][CO5] | [10M] |
| 8 | | Summarize the features of perfect and imperfect competition? | [L2][CO5] | [10M] |
| 9 | | Classify and explain the pricing methods in detail. | [L4][CO5] | [10M] |
| 10 | | Discuss in detail about the pricing strategies. | [L6][CO5] | [10M] |

UNIT - V**CAPITAL & CAPITAL BUDGETING AND FINANCIAL ACCOUNTING & ANALYSIS**

| | | | | | | | | | | | | |
|---------------------------------|---------------|---|---------------------------------|------------|----------------------------|---------------|------------------------|--------------|--------------|---------------|-----------|------|
| 1 | a | Define Capital. | [L1][CO6] | [2M] | | | | | | | | |
| | b | Define Capital Budgeting. | [L1][CO6] | [2M] | | | | | | | | |
| | c | Summarize the demerits of Accounting Rate of Return method. | [L2][CO6] | [2M] | | | | | | | | |
| | d | List out any two merits and demerits of Net Present Value method | [L1][CO6] | [2M] | | | | | | | | |
| | e | Summarize the merits of Internal Rate of Return | [L2][CO6] | [2M] | | | | | | | | |
| | f | Determine the pay-back period for the project requires Rs. 20,000 as initial investment and will give in general an annual cash inflows (CIF's) of Rs.5000 for 10 years. | [L5][CO6] | [2M] | | | | | | | | |
| | g | Define accounting. | [L1][CO6] | [2M] | | | | | | | | |
| | h | Define Journal. | [L1][CO6] | [2M] | | | | | | | | |
| | i | Define Ledger | [L1][CO6] | [2M] | | | | | | | | |
| | j | Define trial balance | [L1][CO6] | [2M] | | | | | | | | |
| 2 | | Classify and explain the various types of working capital. | [L2][CO6] | [10M] | | | | | | | | |
| 3 | a | Explain the need of working capital | [L2][CO6] | [4M] | | | | | | | | |
| | b | Explain the internal rate of return method. Write its advantages and disadvantages. | [L5][CO6] | [6M] | | | | | | | | |
| 4 | a | Discuss about net present value method along with merits and demerits. | [L6][CO6] | [6M] | | | | | | | | |
| | b | Determine the NPV of the project for Beatron castings Ltd. Hyderabad wishes to install machinery in rented premises for the production of a component. The demand for is expected to last for only 5 years. <table border="1"> <tr> <td>Initial outlay will be :</td> <td>Rs.</td> </tr> <tr> <td>Plant and machinery</td> <td>270000</td> </tr> <tr> <td>Working capital</td> <td>40000</td> </tr> <tr> <td>Total</td> <td>310000</td> </tr> </table> <p>The working capital will be fully realized at the end of 5th year is Rs.5000 The expected cash inflows from business operations and PV factor at 15% (cost or capital) are given.</p> | Initial outlay will be : | Rs. | Plant and machinery | 270000 | Working capital | 40000 | Total | 310000 | [L5][CO6] | [4M] |
| Initial outlay will be : | Rs. | | | | | | | | | | | |
| Plant and machinery | 270000 | | | | | | | | | | | |
| Working capital | 40000 | | | | | | | | | | | |
| Total | 310000 | | | | | | | | | | | |
| 5 | a | Discuss in detail about accounting rate of return method. Also list its merits and demerits | [L6][CO6] | [6M] | | | | | | | | |
| | b | Determine the average rate of return on investment for a project requires an investment of Rs. 5,00,000 and has a scrap value of Rs. 20,000 after 5 years. It is expected to yield profit after depreciation and taxes during the five years amounting Rs. 40,000, Rs. 60,000, Rs. 70,000, Rs. 50,000, Rs. 20,000.. | [L5][CO6] | [4M] | | | | | | | | |
| 6 | a | Explain the traditional payback period method. Also list out its merits and demerits. | [L2][CO6] | [6M] | | | | | | | | |
| | b | Determine the pay-back period for the project whose cost is 8,00,000 yields a profit of Rs. 80,000 after depreciation at 12% per annum but before tax of 40%. | [L5][CO6] | [4M] | | | | | | | | |
| 7 | | Determine the net present value of the two projects and suggest which of the two projects should be accepted assuming a discount rate of 10%. Initial investment Rs. 80,000 Rs.60,000 Estimated 5 years 5 years Scrap value Rs. 1,000 Nil The profits before depreciation and after taxes are as follows: | [L5][CO6] | [10M] | | | | | | | | |

| | | Year | | | | | | |
|-----------|--------|-----------|--------|--------|--------|--------|--|--|
| | | 1 | 2 | 3 | 4 | 5 | | |
| | | Project X | 16,000 | 20,000 | 10,000 | 15,000 | | |
| Project Y | 50,000 | 35,000 | 45,000 | 55,000 | 70,000 | | | |

| | | | | |
|-----------|----------|--|-----------|-------|
| 8 | a | Explain the trading account and prepare a sample format for trading account with suitable examples. | [L5][CO6] | [6M] |
| | b | Explain the steps involved in ledger posting. | [L2][CO6] | [4M] |
| 9 | | Define balance sheet and prepare a sample format for balance sheet with suitable example. | [L5][CO6] | [10M] |
| 10 | | Define profit and loss account and prepare the format for profit and loss account with suitable example. | [L5][CO6] | [10M] |

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