



SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY :: PUTTUR
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QUESTION BANK (DESCRIPTIVE)

Subject with Code: IEM (16ME311)
Year & Sem: III-B. Tech & I-Sem

Course & Branch: B. Tech - ME
Regulation: R16

UNIT – I

1. a State the important characteristics of management 6M
- b Name and describe the various levels of management with their functions. 6M
- 2 a State and describe the Taylor's principles of scientific management. 6M
- b State and describe the Fayol's principles of management. 6M
3. a State and explain the Douglas Mc-Gregor's Theory X and Theory Y. 6M
- b Describe the Hertzberg's Two factor theory of motivation. 6M
4. a Describe the Mayo's Hawthorne experiments. 6M
- b Describe the Maslow's Hierarchy of human needs. 6M
5. a "Management is the art of getting things done through and with the people", Comment 6M
- b Describe the systems approach to management 6M
6. Explain the process of organization. 12M
7. a Describe the principles of Organization. 6M
- b Describe the organizational structures. 6M
8. Classify the organizations and write its merits and demerits. 12M
9. Describe the departmentation and decentralization with their merits and demerits 12M
10. a Write the definition of Management and Administration 6M
- b How an accountability is important for an Organization 6M

UNIT – II

- 1 What are the factors governing the plant location. Explain with any one specific industry. 12M
- 2 Define plant layout and discuss its objectives. 12M
- 3 What are advantages and disadvantages of urban and suburban locations for a plant? Compare rural and urban sites for the location of the plant 12M
- 4 Setting up an Industry in rural area is more advantageous. Justify 12M
- 5 Explain different types of plant layout? Give a critical appraisal for each of them. 12M

- 6 What are the various computerized techniques used for plant layout 12M
- 7 Explain the importance of travel chart in effective layout of a production plant. 12M
Prepare a travel chart for a hypothetical engineering concern with 4 functional departments, i.e. foundry, machining, welding and inspection.
- 8 What are the various data analysing forms in plant layout? Explain them in detail. 12M
- 9 Differentiate between process layout and product layout. 12M
- 10 a Define Material Handling system M
b Why the material handling systems are important in industries? 6M

UNIT – III

- 1 Define Work Study. State its objectives. Differentiate between Method Study and Work Measurement 12M
- 2 State and explain the steps involved in method study procedure. 12M
- 3 a What are the various method study symbols? Explain 6M
b Compare outline process chart and flow process chart 6M
- 4 Name various types of charts available for recording the data. Explain them in detail. 12M
- 5 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? 6M
b What is the purpose of string diagram and explain it with an example 6M
- 6 a Describe the SIMO chart with an example 6M
b What is therblig .List the table with details 6M
- 7 Illuminate various methods or techniques of work measurement 12M
- 8 What measurements are to be done in a stop watch time study? Discuss briefly how they are done? 12M
- 9 (i) What is performance rating? 12M
(ii) Give elaborate description about various methods of performance rating
- 10 a What are the various types of allowances to be considered in the calculations of standard time 6M
b The worker in an engineering company is expected to work for 420 min in a shift of 8 hrs. The remaining time is allows for rest and personal needs etc. 6M
(i) Determine the standard time per piece of a job whose normal time is 4 min
(ii) Calculate the number of pieces produced per day
(iii) If the worker produced 100 pieces in his shift what is his efficiency.

UNIT – IV

1. **a** Describe (i) Direct Inventories (ii) Indirect Inventories with suitable examples. 6M
- b** With the help of neat diagram explain the following terms: 6M
(i) Order Quantity (ii) Lead Time (iii) Safety Stock (iv) Re-Order Point
2. **a** Describe Inventory control. What are the objectives of inventory control? 6M
- b** What are the functions of inventory control? 6M
3. **a** Describe the different inventory models. 6M
- b** Describe the cost associated with the inventories. 6M
4. **a** Derive the formula for determining EOQ for inventory model with uniform demand. 6M
- b** A company requires 16000 units of raw material costing Rs. 2 per unit. The cost of placing an order is Rs. 45 and the carrying costs are 10% per year per unit of the average inventory. Determine: (i) the EOQ (ii) Cycle Time and (iii) Total variable cost of managing the inventory. 6M
5. **a** Derive the formula for determining EOQ for several production runs or unequal lengths. 6M
- b** An item is produced at the rate of 50 items per day. The demand occurs at the rate of 25 items per day. If the setup cost is Rs. 100 per set up and holding cost is Rs. 0.01 per unit of item per day, find the economic lot size for one run, assuming that shortages are not permitted. Also find the time of cycle and minimum total cost for one run. 6M
6. **a** Derive the formula for determining number of production runs and optimum lot size to be manufactured. 6M
- b** A company produces 4800 parts per day and sells them at approximately half of that rate. The setup cost is Rs. 1000 and carrying cost is Rs. 5 per unit. The annual demand is 480000 units. Find: (a) Optimal lot size b) Number of production runs that should be scheduled per year, c) Length of each production run. 6M
7. **a** Derive the EOQ formula for the manufacturing model with shortage. 6M
- b** The demand for product is 25 units per month and the items are withdrawn uniformly. The setup cost each time a production is run is Rs. 15. The inventory holding cost is Rs. 0.30 per unit per month. 6M
(i) Determine how often to make production run, if shortages are not allowed.
(ii) Determine how often to make production run, if shortage cost Rs. 1.50 per item per month.
8. **a** Describe the EOQ problem with one price break. 6M
- b** ABC manufacturing company requires special involute gears at the rate of 300 numbers per year. Each gear costs Rs. 36. The procurement cost and inventory carrying cost are estimated at Rs. 30 and 20% respectively. If the supplier offers a discount of Rs. 2 per gear or an order of 200 or above, will it be advisable to purchase higher quantity? 6M

9. **a** Describe the EOQ problem with more than one price break. 6M
- b** A manufacturing concern requires 2000 units of a material per year. The ordering costs are Rs. 10 per order, while carrying costs are Rs. 0.16 per year per unit of average inventory. The purchase price is Rs. 1 per unit. Find the economic order quantity, and the total inventory cost. If a discount of 5 percent is available for orders of 1000 units. Also, if he purchases a single lot of 2000 units, he has to pay Rs. 0.93 per unit. What purchase quantity would you recommend? 6M

- 10 Prepare ABC analysis for on the following sample of items 12M

Item	A	B	C	D	E	F	G	H	I	J
Consumption	300	2800	30	1100	40	220	150	800	600	80
Unit Price	10	15	10	5	5	100	50	5	15	10

UNIT – V

- 1 What are the objectives of Inspection & Quality control? 12M
- 2 Explain in detail about Statistical Quality Control? 12M
- 3 What are the differences between Variables & attributes in sampling plans? 12M
- 4 What are the major types of Acceptance Sampling? 12M
- 5 What are the advantages and disadvantages of Acceptance Sampling? 12M
- 6 Detail about X and R charts? 12M
- 7 Explain in detail about P and C charts? 12M
- 8 Write in detail about Quality circles in TQM? 12M
- 9 Give detailed explanation about TQM? 12M
- 10 What is the importance and functions of HRM? 12M