SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES
(AUTONOMOUS)
(NBA – NAAC ACCREDITED)
B.TECH IV Year II semester
(Question Bank)
16MEC422: **INDUSTRIAL ENGINEERING AND MANAGEMENT**
(MECHANICAL ENGINEERING)

UNIT – 1: CONCEPTS OF MANAGEMENT					
Q.No	**Questions**	**Marks**	**CO**	**BL**	**PO**
1	Define Management.	2	CO1	R	1
2	List various functions of management.	2	CO1	R	1
3	What do you mean by unity of command?	2	CO1	R	1
4	List the skills required for a manager.	2	CO1	R	1
5	Planning and controlling are inseparable. Justify the statement.	2	CO1	U	1
6	What do you mean by a policy?	2	CO1	R	1
7	Demonstrate the differences among policies, goals and objectives.	2	CO1	U	1
8	What are the various levels in management?	2	CO1	R	1
9	List various industrial ownerships.	2	CO1	R	1
10	List various motivational theories.	2	CO1	R	1
11	Demonstrate the various contributions of F.W. Taylor towards Scientific Management.	10	CO1	U	1
12	Explain the principles of management.	10	CO1	R	1
13	Elucidate the process of management or explain various functions of management.	10	CO1	R	1
14	Discuss the contributions of Gilbreth.	10	CO1	U	1
15	Explain Abraham Maslow's Hierarchy of need theory.	10	CO1	R	1
16	Explain McGregor`s Theory X and Theory Y.	10	CO1	R	1
17	Explain Herzberg`s two factor theory.	10	CO1	R	1
18	Write short notes on systems approach to management.	10	CO1	R	1
19	Explain different types of industrial ownerships.	10	CO1	R	1
20	Write short notes on project management and Management Information System.	10	CO1	R	1

UNIT – 2: ORGANIZATIONAL STRUCTURES AND PLANT LAYOUT					
Q.No	**Questions**	**Marks**	**CO**	**BL**	**PO**
1	Define organization.	2	CO2	R	1
2	Define productivity.	2	CO2	R	1
3	List various types of layouts.	2	CO2	R	1
4	Explain various principles of organization.	2	CO2	R	1
5	What is an organization structure?	2	CO2	R	1
6	list different types of organization structures	2	CO2	R	1
7	What do you mean by delegation of authority?	2	CO2	R	1
8	List different types of flow patterns.	2	CO2	R	1
9	What is departmentation?	2	CO2	R	1
10	What is span of control or span of management?	2	CO2	R	1
11	Explain the project organization with its merits and demerits.	10	CO2	R	1
12	Explain the matrix organization with its merits and demerits.	10	CO2	U	1
13	Explain processes of organization.	10	CO2	R	1
14	Explain committee organization.	10	CO2	R	1
15	What are the bases for departmentation? Explain different types by highlighting their merits and demerits.	10	CO2	U	1
16	What is formal and informal organization? Write differences between them.	10	CO2	R	1
17	What is tall organization and flat organization? Write the differences between them.	10	CO2	R,U	1
18	Explain different types of layouts.	10	CO2	R	1
19	Explain plant layout procedure.	10	CO2	R	1
20	Explain the Line (military or scalar) organization , functional organization and line and staff organization with its merits and demerits.	10	CO2	R	1

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UNIT – 3: WORK STUDY					
Q.No	**Questions**	**Marks**	**CO**	**BL**	**PO**
1	What are the advantages of workstudy?	2	CO3	R	1
2	Define standard time.	2	CO3	R	1
3	Define therbligs.	2	CO3	R	1
4	What is the primary objective of method study?	2	CO3	R	1
5	Calculate the standard time using the following data Average observed time = 4.0 minutes Worker rating = 85% Allowance factor = 13%	2	CO3	A	2
6	What do you mean by ergonomics?	2	CO3	R	1
7	What is the objective of time study?	2	CO3	R	1
8	List out different types of allowances.	2	CO3	R	1
9	What is travel chart?	2	CO3	R	1
10	What is a SIMO Chart?	2	CO3	R	1
11	Explain stop watch time study to calculate standard time of a job.	10	CO3	U	1
12	Explain method study procedure.	10	CO3	R	1
13	Explain flow and string diagram.	10	CO3	R	1
14	Explain different types of process chart symbols?	10	CO3	U	1
15	Calculate standard time using the following data. Take allowances = 15% Cycle Observed (in minutes) Job Element | 1 | 2 | 3 | 4 | 5 | Performance Rating (A) Compose and type letter | 8 | 10 | 9 | 21* | 11 | 120% (B) Type envelope address | 2 | 3 | 2 | 1 | 3 | 105% (C) Stuff, stamp, seal, and sort envelopes | 2 | 1 | 5† | 2 | 1 | 110%	10	CO3	A	2
16	Demonstrate various principles of motion economy.	10	CO3	U	1
17	Explain PMTS method.	10	CO3	R	1
18	Explain the work study procedure.	10	CO3	R	1
19	Demonstrate the multiple activity chart.	10	CO3	R	1
20	Explain critical examination step in method study.	10	CO3	U	1

<table>
<tr><th colspan="6">UNIT – 4: PRODUCTION PLANNING AND CONTROL</th></tr>
<tr><th>Q.No</th><th>Questions</th><th>Marks</th><th>CO</th><th>BL</th><th>PO</th></tr>
<tr><td>1</td><td>What is economic batch quantity?</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>2</td><td>Define scheduling.</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>3</td><td>List out different forecasting techniques.</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>4</td><td>what do you mean by dispatching</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>5</td><td>What are the objectives of line balancing?</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>6</td><td>What is job shop production system?</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>7</td><td>What do you mean by loading?</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>8</td><td>Define continuous production system.</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>9</td><td>Differentiate continuous and intermittent production?</td><td>2</td><td>CO4</td><td>U</td><td>1</td></tr>
<tr><td>10</td><td>What do you mean by routing?</td><td>2</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>11</td><td>Explain forward and backward scheduling</td><td>10</td><td>CO4</td><td>U</td><td>1</td></tr>
<tr><td>12</td><td>Explain different forecasting techniques.</td><td>10</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>13</td><td>Derive the equation for economic batch quantity.</td><td>10</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>14</td><td>Explain process planning.</td><td>10</td><td>CO4</td><td>U</td><td>1</td></tr>
<tr><td>15</td><td>Explain horizontal loading method with an example.</td><td>10</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>16</td><td>Explain line balancing methods.</td><td>10</td><td>CO4</td><td>R</td><td>1</td></tr>
<tr><td>17</td><td>Details of Work elements, their times and precedence relations are given below. Construct network diagram and design the assenbly line by considering ideal cycle time as 1.5 min (use largest candidate rule). Also find (i) Total work content (ii) Minimum number of theoritical work stations (iii) service time at each station (iv) line balance efficiency (v) balance delay.
<table>
<tr><td>Work Element</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td>Time (min)</td><td>1</td><td>0.5</td><td>0.8</td><td>0.3</td><td>1.2</td><td>0.2</td><td>0.5</td><td>1.5</td></tr>
<tr><td>Immediate predecessor</td><td>-</td><td>-</td><td>1,2</td><td>2</td><td>3</td><td>3,4</td><td>4</td><td>5,6,7</td></tr>
</table></td><td>10</td><td>CO4</td><td>A</td><td>2</td></tr>
<tr><td>18</td><td>XYZ Company produces pizzas. It has a demand of 120 pizzas per day. It works 8 hours per day. Use the following data and balance the line with Ranked Positional Weight method. find (i) cycle time (ii) total work content (iii) theoretical number of workstations (iv) service time of each workstation (v) line efficiency (vi) balance delay
<table>
<tr><td>Work element</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr>
<tr><td>Time (min)</td><td>2</td><td>1</td><td>2</td><td>3</td><td>3</td><td>3</td></tr>
<tr><td>Immediate predecessor (s)</td><td>-</td><td>A</td><td>A</td><td>B,C</td><td>D</td><td>E</td></tr>
</table></td><td>10</td><td>CO4</td><td>A</td><td>2</td></tr>
<tr><td>19</td><td>Monthly demand for a product is given below. Forecast the demand for next month using (i) 3 month moving average method and (ii) 3 month weighted moving average method with weightage of 0.2, 0.3 and 0.5.
<table>
<tr><td>Month</td><td>Jan</td><td>Feb</td><td>Mar</td><td>April</td><td>May</td><td>June</td></tr>
<tr><td>Demand</td><td>650</td><td>700</td><td>810</td><td>800</td><td>900</td><td>700</td></tr>
</table></td><td>10</td><td>CO4</td><td>A</td><td>2</td></tr>
<tr><td>20</td><td>Demand for an item is constant at 1800 units a year. The item can be made at a constant rate of 3500 units a year. Unit cost is Rs 50, batch setup cost is Rs 650 and holding cost is 30% of value a year. What is the optimum batch size for the item , optimum production run and time between cycles?.</td><td>10</td><td>CO4</td><td>A</td><td>2</td></tr>
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UNIT – 5: INVENTORY CONTROL AND PERSONNEL MANAGEMENT					
Q.No	**Questions**	**Marks**	**CO**	**BL**	**PO**
1	Define inventory.	2	CO5	R	1
2	Why different organizations keep inventory?	2	CO5	R	1
3	List out different types of inventory.	2	CO5	R	1
4	List out different inventory costs.	2	CO5	R	1
5	What are the components comes under inventory carrying cost?	2	CO5	R	1
6	Define EOQ.	2	CO5	R	1
7	What is the base for working of ABC selective inventory control technique?	2	CO5	R	1
8	What do you mean by economic order quantity?	2	CO5	R	1
9	Define MRP II.	2	CO5	R	1
10	What are the components comes under ordering cost?	2	CO5	R	1
11	Derive the equation for EOQ.	10	CO5	U	1
12	Demonstrate ABC selective inventory control system.	10	CO5	R	1
13	What do you mean by MRP? Explain.	10	CO5	R	1
14	What are the objectives of HRM or personnel management?	10	CO5	U	1
15	Explain recruitment and selection process.	10	CO5	R	1
16	Explain job evaluation methods?	10	CO5	R	1
17	Demonstrate various merit rating methods?	10	CO5	R	1
18	Discuss different wage incentive plans.	10	CO5	R	
19	Explain different inventory costs.	10	CO5	R	1
20	A retailer shop needs 10000 rice bags in a year. The order cost is 500 rupees per order and inventory carrying cost is 25 rupees per bag per year. Determine optimal number of bags to order and time between the orders.	10	CO5	A	2