

Code: 20ME4601B

III B.Tech - II Semester – Regular Examinations – JUNE 2023

**PRODUCTION PLANNING AND CONTROL
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks																						
UNIT-I																											
1	a)	Define PPC. Explain the need for PPC.	L2	CO1	7 M																						
	b)	Forecast the demand for the following series by exponential smoothing method by taking $\alpha = 0.3$ and 0.6 .	L3	CO3	7 M																						
		<table border="1"> <tr> <td>Period</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> <td>9</td> <td>10</td> </tr> <tr> <td>Actual demand</td> <td>10</td> <td>12</td> <td>8</td> <td>11</td> <td>9</td> <td>10</td> <td>15</td> <td>14</td> <td>16</td> <td>15</td> </tr> </table>	Period	1	2	3	4	5	6	7	8	9	10	Actual demand	10	12	8	11	9	10	15	14	16	15			
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Actual demand	10	12	8	11	9	10	15	14	16	15																	
OR																											
2	a)	Differentiate the qualitative and quantitative methods in forecasting.	L2	CO1	7 M																						
	b)	The demand for 10 weeks is given in the following table. Calculate the four-month moving average.	L3	CO3	7 M																						
		<table border="1"> <tr> <td>Week</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> <td>9</td> <td>10</td> </tr> <tr> <td>Orders</td> <td>120</td> <td>90</td> <td>100</td> <td>110</td> <td>45</td> <td>91</td> <td>65</td> <td>71</td> <td>49</td> <td>55</td> </tr> </table>	Week	1	2	3	4	5	6	7	8	9	10	Orders	120	90	100	110	45	91	65	71	49	55			
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UNIT-II

3	a)	Explain the scope of ERP and difficulties in implementation.	L2	CO1	7 M
	b)	A company requires 10000 units of an item per annum. The cost of ordering is Rs. 150 per order. The inventory carrying cost is 30%. The unit price of the item is Rs. 12. Calculate (i) The economic order quantity (ii) Optimal total annual cost (iii) Time between the orders.	L3	CO3	7 M

OR

4	a)	Compare VED analysis with ABC analysis.	L2	CO1	7 M
	b)	Explain P and Q systems of controlling the inventories with neat diagrams.	L2	CO3	7 M

UNIT-III

5	a)	Explain the steps involved in the preparation of route sheet.	L2	CO1	7 M
	b)	Explain the bill of material with design specification chart.	L2	CO3	7 M

OR

6	a)	Explain about the scheduling techniques in detail.	L2	CO1	7 M
	b)	Discuss any four priority rules for job sequencing with simple example.	L2	CO1	7 M

UNIT-IV					
7	a)	Explain the terms related to line balancing.	L2	CO1	7 M
	b)	Explain various strategies in aggregate planning.	L2	CO4	7 M
OR					
8	a)	What is line balancing? What is its importance in PPC? Explain it with an example.	L2	CO1	7 M
	b)	What is the purpose of aggregate planning? Explain in detail.	L2	CO4	7 M
UNIT-V					
9	a)	Describe the dispatching procedure.	L2	CO1	7 M
	b)	Explain the applications of computer in production planning and control.	L2	CO2	7 M
OR					
10	a)	Explain the reasons for existence of follow-up functions.	L2	CO1	7 M
	b)	Differentiate between centralized and decentralized dispatching procedures.	L2	CO2	7 M