



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.														
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End - Term Examinations – MAY 2025

Date: 31-05-2025

Time: 09:30 am – 12:30 pm

School: SOE	Program: B. Tech-MEC	
Course Code : MEC3068	Course Name: Production and Operation Management	
Semester: VI	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04
Marks	24	24	26	26

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	Define operations management.	2 Marks	L1	C01
2.	List any two differences between goods and services.	2 Marks	L1	C01
3.	What is aggregate production planning?	2 Marks	L1	C02
4.	Name any two facility layout types.	2 Marks	L1	C02
5.	Define job sequencing.	2 Marks	L1	C03
6.	What is flow shop scheduling?	2 Marks	L1	C03
7.	State the purpose of dispatching in PPC.	2 Marks	L1	C03
8.	Mention two benefits of lean manufacturing.	2 Marks	L1	C04
9.	Define supply chain integration.	2 Marks	L1	C04
10.	What is the purpose of FMS?	2 Marks	L1	C04

Part B

Answer the Questions.**Total Marks 80M**

11.	a.	Explain the characteristics of production systems.	10 Marks	L2	CO1																		
	b.	Describe the functions of a production manager in a manufacturing firm.	10 Marks	L2	CO1																		
Or																							
12.	a.	Discuss the objectives and scope of Production and Operation Management.	10 Marks	L2	CO1																		
	b.	Explain the different types of production systems with examples.	10 Marks	L2	CO1																		
13.	a.	What are the key activities involved in production planning and control?	10 Marks	L2	CO2																		
	b.	Explain the product layout and its advantages.	10 Marks	L2	CO2																		
Or																							
14.	a.	Explain the qualitative and quantitative factors in plant location decisions.	10 Marks	L2	CO2																		
	b.	Compare job shop and batch production systems.	10 Marks	L2	CO2																		
15.	A set of five jobs is to be processed on a single machine. The processing time and due dates (in hours) are given below. Schedule the jobs using SPT (Shortest Processing Time) and calculate average flow time and average tardiness. <table border="1"><thead><tr><th>Job</th><th>Processing Time</th><th>Due Date</th></tr></thead><tbody><tr><td>A</td><td>4</td><td>10</td></tr><tr><td>B</td><td>6</td><td>12</td></tr><tr><td>C</td><td>2</td><td>8</td></tr><tr><td>D</td><td>3</td><td>7</td></tr><tr><td>E</td><td>5</td><td>15</td></tr></tbody></table>		Job	Processing Time	Due Date	A	4	10	B	6	12	C	2	8	D	3	7	E	5	15	20 Marks	L3	CO3
Job	Processing Time	Due Date																					
A	4	10																					
B	6	12																					
C	2	8																					
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Or																							
16.	The following table shows job details to be scheduled using a Gantt chart. Draw the Gantt chart and interpret the schedule. <table border="1"><thead><tr><th>Job</th><th>Processing Time (hours)</th><th>Start Time</th></tr></thead><tbody><tr><td>P</td><td>4</td><td>0</td></tr><tr><td>Q</td><td>3</td><td>4</td></tr><tr><td>R</td><td>6</td><td>7</td></tr></tbody></table>		Job	Processing Time (hours)	Start Time	P	4	0	Q	3	4	R	6	7	20 Marks	L3	CO3						
Job	Processing Time (hours)	Start Time																					
P	4	0																					
Q	3	4																					
R	6	7																					
17.	Explain the basic concepts of Six Sigma and its DMAIC methodology with suitable examples.		20 Marks	L2	CO4																		
Or																							
18.	a) Define Lean Manufacturing. What are its principles and advantages? b) Explain QFD and its application in product development.		20 Marks	L2	CO4																		