Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – March 2026

Date: 11-03- 2026 **Time:** 11.45am to 01.15pm

School: SOE	**Program:** B.Tech	
Course Code : MEC3068	**Course Name:** Production and Operations Management	
Semester: IV, VI	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	CO1	CO2	CO3	CO4	CO5	CO6
Marks	26	24	-	-	-	-

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 2 Marks. 5Q x2M=10M

1	Differentiate between production management and operations management (any 2 points).	**2 Marks**	**L2**	**CO1**
2	State the objectives of production management.	**2 Marks**	**L1**	**CO1**
3	Define productivity of a system.	**2 Marks**	**L1**	**CO1**
4	Classify the different types of plant layout.	**2 Marks**	**L2**	**CO2**
5	Tell about aggregate planning.	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

<table>
<tr><td>6.</td><td>a.</td><td>Explain the 5Ms of production management with suitable examples.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
<tr><td></td><td>b.</td><td>Describe the concept of product design and process design with suitable examples.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>7.</td><td>a.</td><td>Discuss the role of plant layout and material handling in production management and explain the same with a sand-casting plant.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
<tr><td></td><td>b.</td><td>Differentiate between job shop and batch production. Mention its properties, advantages and limitations.</td><td>10 Marks</td><td>L2</td><td>CO1</td></tr>
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<tr><td>8.</td><td>a.</td><td>Construct the production planning and control flow diagram and summarize its objectives.</td><td>10 Marks</td><td>L3</td><td>CO2</td></tr>
<tr><td></td><td>b.</td><td>Identify a new location for a manufacturing facility for the given data. The facility has frequent relationships with its five major suppliers and since the supplied material is bulky and transportation costs are high the closeness to the five suppliers has been determined as the major factor for the facility location. The current coordinates of the suppliers are S1=(1,1), S2=(5,2), S3=(2,8), S4=(4,4) and S5=(8,6). The cost per unit distance traveled is the same for each supplier, but the number of trips per day between the facility and each of its suppliers are 5,6,2,4 and 8.</td><td>10 Marks</td><td>L3</td><td>CO2</td></tr>
<tr><td colspan="6">Or</td></tr>
<tr><td>9.</td><td>a.</td><td>Apply the center of gravity method principle for the information below on the location of the potential markets, identify where the new facility should be located to minimize the total transportation cost. Note that a selected point in the middle of each region is representing the regional market.
<table>
<tr><th>Market</th><th>Volume</th><th>X</th><th>Y</th></tr>
<tr><td>Bengaluru</td><td>500</td><td>2</td><td>3</td></tr>
<tr><td>Mangaluru</td><td>300</td><td>4</td><td>5</td></tr>
<tr><td>Mysuru</td><td>450</td><td>7</td><td>5</td></tr>
<tr><td>Hosur</td><td>700</td><td>3</td><td>7</td></tr>
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</td><td>10 Marks</td><td>L3</td><td>CO2</td></tr>
<tr><td></td><td>b.</td><td>Sketch the working mechanism of process layout and combination layout with suitable examples.</td><td>10 Marks</td><td>L3</td><td>CO2</td></tr>
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