Roll No.											

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 05-12-2025 **Time:** 01:00pm – 04:00pm

School: COMMON TO ALL SCHOOL	**Program:** COMMON TO ALL PROGRAM	
Course Code: MEC3257	**Course Name:** Industry 4.0	
Semester: OE	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Marks	**6**	**6**	**22**	**22**	**22**	**22**

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. **10Q x 2M=20M**

1.	Tell about the core idea of Industry 4.0 production systems.	**2 Marks**	**L1**	**CO1**
2.	Outline the objectives of Flexible Manufacturing System (FMS).	**2 Marks**	**L1**	**CO1**
3.	State how Industry 4.0 improves customer benefits.	**2 Marks**	**L1**	**CO1**
4.	Define conceptual framework.	**2 Marks**	**L1**	**CO2**
5.	State the purpose of Industry 4.0 readiness framework.	**2 Marks**	**L1**	**CO2**
6.	Outline the significance of Service 4.0	**2 Marks**	**L1**	**CO2**
7.	Define supply chain digitization.	**2 Marks**	**L1**	**CO3**
8.	Mention two ways Industry 4.0 impacts people in society.	**2 Marks**	**L1**	**CO4**
9.	List any two key skills required by Faculty 4.0.	**2 Marks**	**L1**	**CO5**
10.	State any two challenges industries face while implementing Industry 4.0.	**2 Marks**	**L1**	**CO6**

Part B

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

11.	Explain the role of **3D printing (Additive Manufacturing)** in transforming supply chains, healthcare, agriculture, and defense. Compare the advantages and challenges in each sector with suitable examples.	**20 Marks**	**L2**	**CO3**
	Or			
12.	Evaluate how Big Data and Virtual Analytics contribute to better decision-making across Supply Chain 4.0, Healthcare 4.0, and Agriculture 4.0.	**20 Marks**	**L5**	**CO3**

13.	Discuss how Industry 4.0 is redefining required skill sets, emphasizing digital literacy, problem-solving abilities, and interdisciplinary knowledge.	**20 Marks**	**L2**	**CO4**
	Or			
14.	Critically analyze how Industry 4.0 reshapes the relationship between businesses, government, and people and assess the long-term societal implications and suggest strategies for ensuring equitable and ethical technology adoption.	**20 Marks**	**L4**	**CO4**

15.	Propose a comprehensive framework that educational institutions can adopt to align academic programs with Industry 4.0 requirements including aspects such as academia–industry collaboration, internships, research partnerships, innovation ecosystems, and skill certification programs.	**20 Marks**	**L5**	**CO5**
	Or			
16.	Evaluate major challenges faced by educational institutions when transitioning towards Education 4.0 in terms of faculty training, infrastructure costs, digital divide, and curriculum resistance.	**20 Marks**	**L5**	**CO5**

17.	Explain how emerging technologies such as IoT, AI, digital twins, robotics, additive manufacturing, and cyber-physical systems will reshape industrial productivity, sustainability, and competitiveness.	**20 Marks**	**L2**	**CO6**
	Or			
18.	Propose a comprehensive framework/roadmap that organizations or nations can adopt to successfully transform into Industry 4.0 over the next ten years.	**20 Marks**	**L5**	**CO6**