

U.S.N.

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

October 2024 Supplementary Examinations

Programme: B.E.

Semester: VI

Branch: Industrial Engineering & Management

Duration: 3 hrs.

Course Code: 22IM6PCIBA

Max Marks: 100

Course: Industry 5.0

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			UNIT - I	CO	PO	Marks
	1	a)	Identify the critical areas of manufacturing that have been impacted by Digital transformation in manufacturing and explain them with any two examples of Manufacturing Digitization.	CO1	PO1	10
		b)	What is Business Transformation? Explain the key elements and types of Business Transformation.	CO1	PO1	10
			OR			
	2	a)	What is Engineering Process Automation? How do you implement it in an Automotive Industry? Explain.	CO1, CO2	PO1, PO2	08
		b)	Can RPA bring about fundamental transformation in Manufacturing? Using a flowchart explain its application to a electronic devices' manufacturing industry.	CO1, CO2	PO1, PO2	06
		c)	List and explain any three Value Drivers of Process Transformation?	CO1	PO1	06
			UNIT - II			
	3	a)	Explain the key developments and consequent results of the four Industrial Revolutions.	CO1	PO1	08
		b)	How do you differentiate PLC and SCADA is their design and use? Explain.	CO3	PO4	06
		c)	What are the basic components of IIOT? Explain the key difference between IOT and IIOT.	CO1, CO3	PO1, PO4	06
			UNIT - III			
	4	a)	Enumerate the Process Automation Potentials of making of uPVC profile extrusion process.	CO1	PO1	10

	b)	Elaborate on Scope of Augmented Reality and development in Additive Manufacturing as applied to Plastic Industry.	CO1, CO2	PO1, PO2	10
		OR			
5	a)	How does the Process Transformation affect the working of Ground Support Equipment in Aviation Industry under Industry 5.0?	CO1, CO2	PO1, PO2	10
	b)	Explain the role of AR/VR in improving safety through Maintenance, Repair and Overhaul.	CO1, CO2	PO1, PO2	10
		UNIT - IV			
6	a)	Explain the distinctive features of ideology of World Class Manufacturing Technology in today's world.	CO1, CO2	PO1, PO2	10
	b)	What are the challenges faced in implementing PLM and PCS(Process Control System) for SMEs? Explain.	CO1, CO2	PO1, PO2	10
		UNIT - V			
7	a)	List and explain the reasons for upgradation of Industry 4.0 to Industry 5.0.	CO1, CO2	PO1, PO2	10
	b)	Identify the factors that highlight the Transformation journey from Industry 3.0 to Industry 5.0 passing through Industry 4.0.	CO1, CO2	PO1, PO2	10
