ModelQuestionPaper-1witheffect from2023-24(CBCS Scheme)

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Third Semester B.E. Degree Examination
Manufacturing Technology for Robots

TIME: 03Hours **Max. Marks: 100**

Note: 01.Answer any **FIVE** full questions, choosing atleast **ONE** question from each **MODULE**.

		Module–1	Marks	L	C
Q.1	(a)	Describe Material Selection for Robotic Components and give two examples.	10	L2	CO1
	(b)	Explain briefly the Material properties and their significance in robotic component design	10	L1	CO1
		OR			
Q.2	(a)	Mention and briefly explain the advantages of composite materials.	10	L1	CO1
	(b)	Write a short note on ABS Plastic and Nylon	10	L1	CO1
		Module–2			
Q.3	(a)	What are the types manufacturing processes? Explain any two.	10	L1	CO2
	(b)	What are the advantages and limitations of casting?	10	L1	CO2
		OR			
Q.4	(a)	What are the forging defects? Explain briefly with necessary sketches.	10	L2	CO2
	(b)	What are the types of rolling mills? Explain any two with diagram.	10	L2	CO2
		Module–3			
Q.5	(a)	Write short notes on lubrication and defects in extrusion.	10	L1	CO3
	(b)	Explain the variables that affect the extrusion process.	10	L3	CO3
		OR			
Q.6	(a)	With the help of sketches explain the compound die.	10	L2	CO3
	(b)	Explain metal arc welding using diagram.	10	L2	CO3
		Module–4			
Q.7	(a)	Define additive manufacturing and Explain its principles.	10	L1	CO4
	(b)	Describe with sketch selective laser sintering.	10	L2	CO4
		OR			
Q.8	(a)	Explain the applications of additive manufacturing in robotics.	10	L2	CO4
	(b)	Explain three design considerations for additive manufacturing.	10	L2	CO4
		Module–5			
Q.9	(a)	What is CAD and CAM? Explain the difference between them.	10	L1	CO5
	(b)	Which language is used in CNC programming? Explain.	10	L2	CO5
		OR			
Q.10	(a)	What are the common issues in CNC machining? Explain how to overcome these issues.	10	L2	CO5
	(b)	Write short note on dimensional tolerances in robotic component fabrication.	10	L2	CO5