U.S.N.										

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

Autonomous Institute Affiliated to VTU

October 2024 Supplementary Examinations

Programme: B.E. **Semester: III**
Branch: Mechanical Engineering **Duration: 3 hrs.**
Course Code: 23ME3PCMAP **Max Marks: 100**
Course: Manufacturing Processes

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)	Define manufacturing process and explain how manufacturing processes are classified?	CO1	PO 1	**10**
	b)	List and explain various pattern allowances in detail used while designing of pattern	CO2	PO1	**10**
		OR			
2	a)	Highlight functions of a pattern and pattern materials used in casting	CO2	PO1	**10**
	b)	Define a core. List out its functions and importance in casting.	CO2	PO1	**10**
		UNIT - II			
3	a)	Explain typical gating system with a neat sketch and explain why risering is important in casting?	CO2	PO1	**10**
	b)	Explain concept of solidification in pure materials and alloys with cooling curves.	CO3	PO1	**10**
		OR			
4	a)	With a neat sketch describe the following: i) Gravity die casting ii) Centrifugal casting iii) Shell Mould	CO4	PO1	**12**
	b)	Sketch and explain investment casting with a neat sketch.	CO4	PO1	**08**
		UNIT-III			
5	a)	With a neat sketch explain laser beam and friction stir welding processes.	CO4	PO1	**10**
	b)	What is weld corrosion? explain how it influence the metallurgy of weld.	CO3	PO1	**10**

			UNIT-IV			
	6	a)	Explain powder extrusion and powder forging with illustration.	*CO4*	*PO1*	**10**
		b)	Explain steps involved in powder metallurgy with its advantages and limitations.	*CO4*	*PO1*	**10**
			UNIT - V			
	7	a)	Explain FDM and LOM techniques of Rapid prototyping with illustration	*CO4*	*PO1*	**10**
		b)	Explain Steps involved in RP process and point out its advantages and limitations.	*CO1*	*PO1*	**10**

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