

U.S.N.

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

Autonomous Institute Affiliated to VTU

## April 2024 Semester End Main Examinations

**Programme: B.E.**

**Branch: Industrial Engineering and Management**

**Course Code: 22IM3PCMAP**

**Course: Manufacturing Process**

**Semester: III**

**Duration: 3 hrs.**

**Max Marks: 100**

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

<b>Important Note:</b> Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			<b>UNIT - I</b>	<b>CO</b>	<b>PO</b>	<b>Marks</b>
	1	a)	Discuss about the following i) index plate ii) Simple indexing ii) Compound indexing	CO1		10
		b)	Derive Merchant's Circle Diagram, with all necessary assumptions.	CO2	PO1	10
			<b>UNIT - II</b>			
	2	a)	Discuss about the Constituents of Molding Sand and types of additives used in that.	CO1		10
		b)	Write a brief description of the Squeeze casting process.	CO1		10
			<b>OR</b>			
	3	a)	Brief on the properties of Base Sand.	CO1		10
		b)	Explain with a neat diagram, the working principle of Continuous Casting process	CO1		10
			<b>UNIT - III</b>			
	4	a)	Explain the Laser Beam Machining (LBM) process using a neat diagram. Also mention its advantages and disadvantages.	CO1		10
		b)	Explain the Eddy Current Testing Process used in NDT, with a neat diagram. Also state its applications	CO1		10
			<b>OR</b>			
	5	a)	Explain the working principle of electro discharge machining with neat sketch.	CO1		10
		b)	Explain the Ultrasonic inspection method with a neat diagram	CO1		10

			<b>UNIT - IV</b>			
	6	a)	Explain the Thermit welding process with appropriate diagrams.	<i>COI</i>		<b>10</b>
		b)	What is meant by Explosive welding? Describe using a neat sketch.	<i>COI</i>		<b>10</b>
			<b>UNIT - V</b>			
	7	a)	Discuss about the die design parameters in closed die forging	<i>COI</i>		<b>10</b>
		b)	Discuss about the factors that govern the selection of a grinding wheel	<i>COI</i>		<b>10</b>

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B.M.S.C.E. - ODD SEM 2023-24