

U.S.N.

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

Autonomous Institute Affiliated to VTU

December 2023 Supplementary Examinations

Programme: B.E.

Branch: Industrial Engineering and Management

Course Code: 22IM3PCMAP

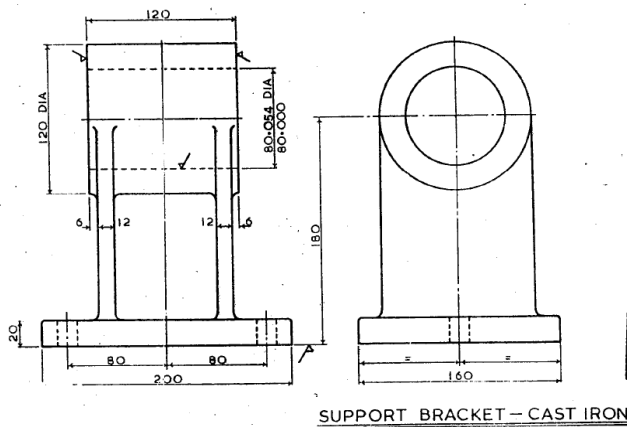
Course: Manufacturing Processes

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.

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	
	1	a)	With neat sketches indicate and explain the geometry of Single point cutting tool.	10
		b)	A carbide-cutting tool when machined with mild steel workpiece material at a cutting speed of 50 m/min lasted for 100 minutes i) Determine the life of the tool when the cutting speed is increased by 25%. ii) At what speed the tool is to be used to get a tool life of 180 minute. Assume $n = 0.26$ in the Taylor's expression.	10
			UNIT - II	
	2	a)	Discuss Loose Piece Pattern with the help of neat sketches. Also, mention its applications.	10
		b)	<p>The figure below shows the casting drawing of "Support Bracket - Cast Iron". Design the casting with emphasis on the following:</p> <ul style="list-style-type: none"> -Orientation and Parting Line -Indicate the no. of cores required -Suggest design modifications to eliminate/reduce cores required.  <p style="text-align: center;">SUPPORT BRACKET - CAST IRON</p>	10
			OR	

3	a)	Write a note on the properties of Base Sand.	10
	b)	Explain with a neat diagram, the working principle of Continuous Casting process	10
		UNIT - III	
4	a)	Explain the Laser Beam Machining (LBM) process using a neat diagram. Also mention its advantages and disadvantages.	10
	b)	Explain the Eddy Current Testing Process used in NDT.	10
		UNIT - IV	
5	a)	With the aid of a neat sketch, explain the TIG welding process.	10
	b)	Explain the working principle of Submerged Arc welding with a neat sketch.	10
		OR	
6	a)	Explain the Thermit welding process with appropriate diagrams.	10
	b)	What is meant by Explosive welding? Describe using a neat sketch.	10
		UNIT - V	
7	a)	Explain with a neat sketch i) Open Die Forging ii) Closed Die Forging	10
	b)	Write a note on the type of abrasives used in Grinding.	10
