

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

Autonomous Institute Affiliated to VTU

## August 2024 Semester End Main Examinations

Programme: B.E.

Branch: Mechanical Engineering

Course Code: 23ME4PCMFT

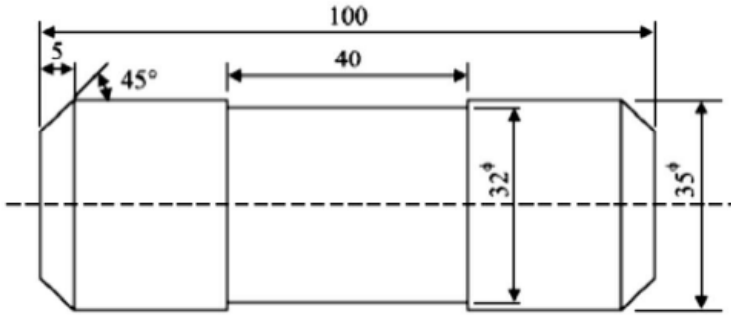
Course: Manufacturing Technology

Semester: IV

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)	Explain the single point cutting tool nomenclatures with a sketch.	CO1	PO 1	10
		b)	List and explain the effect of cutting parameters on tool life.	CO1	PO 1	05
		c)	List and explain the properties of cutting fluids.	CO1	PO 1	05
			<b>OR</b>			
	2	a)	<p>A mild steel bar 100 mm long and 38 mm in diameter is turned to 35 mm dia. And was again turned to a diameter of 32 mm over a length of 40 mm as shown in the Fig. 1. The bar was machined at both the ends to give a chamfer of <math>45^\circ \times 5</math> mm after facing. Calculate the machining time. Assume cutting speed of 60 m/min and feed 0.4 mm/rev. The depth of cut is not to exceed 3 mm in any operation.</p>  <p style="text-align: center;">Fig. 1.</p>	CO2	PO 1	10
		b)	What are the 3 differences between a shaper and a planer	CO1	PO 1	3
		c)	Explain the principle parts of a shaping machine with a sketch.	CO1	PO 1	7
			<b>UNIT - II</b>			
	3	a)	Explain the nomenclature of a standard drill bit with sketch.	CO1	PO 1	10
		b)	Explain the working of a vertical milling machine with sketch.	CO1	PO 1	10

		<b>UNIT - III</b>			
4	a)	Discuss the classification of metal forming processes based on stress employed.	CO3	PO1	<b>10</b>
	b)	What are the differences between hot and cold working.	CO3	PO1	<b>10</b>
		<b>OR</b>			
5	a)	Describe some common forging defects and their causes	CO3	PO1	<b>10</b>
	b)	Describe the process of rolling. Illustrate your answer with a suitable explanatory sketch.	CO3	PO1	<b>10</b>
		<b>UNIT - IV</b>			
6	a)	Explain the difference between direct and indirect extrusion processes with the help of explanatory sketches.	CO3	PO1	<b>10</b>
	b)	Describe the tube-drawing process.	CO3	PO1	<b>10</b>
		<b>UNIT - V</b>			
7	a)	Write a brief note on “bending” of sheet metal. What kind of machines are used for this process?	CO2	PO1	<b>10</b>
	b)	List and explain types of drilling jigs	CO2	PO1	<b>10</b>

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