

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV EXAMINATION – SUMMER 2025

**Subject Code:3140204**

**Date:19-05-2025**

**Subject Name: Automotive Manufacturing Processes and Technology**

**Time:10:30 AM TO 01:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
<b>Q.1</b>	(a) List out the manufacturing processes used in automotive manufacturing.	<b>03</b>
	(b) Write the steps of manufacturing process for a propeller shaft.	<b>04</b>
	(c) Discuss various sheet metal work for the manufacturing of a car.	<b>07</b>
<b>Q.2</b>	(a) Give the function of a lathe chuck and write the types of it.	<b>03</b>
	(b) Classify lathe and describe various operations carried out on it.	<b>04</b>
	(c) Explain plasma arc machining with neat diagram.	<b>07</b>
	<b>OR</b>	
	(c) Explain construction and working of drilling machine with neat diagram.	<b>07</b>
<b>Q.3</b>	(a) Differentiate between upsetting and drawing operations of the forging process.	<b>03</b>
	(b) Explain (i) Thread rolling (ii) Ring rolling	<b>04</b>
	(c) Explain forward Extrusion process with neat sketches.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) List out various forging defects.	<b>03</b>
	(b) Explain wire drawing process with neat sketch.	<b>04</b>
	(c) Classify metal rolling and explain different types of rolling mills with neat sketches.	<b>07</b>
<b>Q.4</b>	(a) List out the common pattern materials with merits and demerits.	<b>03</b>
	(b) Discuss basic properties required in moulding sand.	<b>04</b>
	(c) Explain: (i) Match plate pattern (ii) Gated Pattern with neat sketch	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Give the advantages of die casting over sand casting.	<b>03</b>
	(b) Describe various pattern allowances.	<b>04</b>
	(c) Explain injection moulding process of plastic moulding with neat diagram.	<b>07</b>
<b>Q.5</b>	(a) Classify welding process.	<b>03</b>
	(b) Explain basic operations of soldering.	<b>04</b>
	(c) Explain shielded metal arc welding (SMAW) with neat diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Describe the types of oxy-acetylene flames of welding.	<b>03</b>
	(b) Write a short note on brazing.	<b>04</b>
	(c) Explain resistance seam welding and spot welding with neat sketch.	<b>07</b>

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