

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV EXAMINATION – WINTER 2025

Subject Code:3140204

Date:24-11-2025

Subject Name:Automotive Manufacturing Processes and Technology

Time:02:30 PM TO 05:00 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
Q.1 (a) Differentiate between up Milling and down Milling	03
(b) Describe any four operations that can be carried out on Milling machine along with neat sketches	04
(c) Explain working principle of Capstan and Turret lathe with neat sketch.	07
Q.2 (a) Give brief information about Honing Process	03
(b) Explain Electric Discharge Machining with neat sketch	04
(c) Describe Blow Moulding Plastic manufacturing process with neat sketch along with its applications	07
OR	
(c) Describe Injection Moulding Plastic manufacturing process with neat sketch along with its applications	07
Q.3 (a) Explain types of flame of Oxy-acetylene gas welding	03
(b) Explain the causes and remedies of Undercut, Tungsten Inclusion, Spatter and Incomplete Fusion with suitable sketches.	04
(c) Explain importance of polarity in Arc welding and explain GTAW process with neat sketch	07
OR	
Q.3 (a) Give difference between welding, soldering and welding	03
(b) Explain mode of metal transfer in GMAW process	04
(c) Explain Laser Beam Welding with Suitable sketch	07
Q.4 (a) Write functions of riser and runner in casting.	03
(b) What is pattern? list different types of patterns and explain any One with neat sketch	04
(c) Why allowances are important in casting? Explain types of allowances.	07
OR	
Q.4 (a) Explain following casting defects (i) Blowholes (ii) Cold shuts (iii) Misruns	03
(b) What is gating system? what are its functions?	04
(c) Explain Investment Casting process with suitable sketch.	07
Q.5 (a) General classification of metal forming processes	03
(b) What are the advantages of hot working over cold working of metals?	04
(c) Explain Direct and Indirect extrusion process with suitable sketch	07
OR	
Q.5 (a) Importance of recrystallization temperature for mechanical working process.	03
(b) Explain drop forging and roll forging processes.	04

- (c) Explain the cupola furnace with neat sketch showing temperature zones and important reactions that are taking places in it.

07
