

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 5 – EXAMINATION – SUMMER 2026

Subject Code: 3151912

Date: 09/06/2026

Subject Name: Manufacturing 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.**

- Q.1**
- (a) List various plastic molding methods. Explain any one in brief **03**
 - (b) Elaborate on powder coating process in brief **04**
 - (c) State various super finishing processes. Explain any one super finishing process with neat sketch **07**
- Q.2**
- (a) Elaborate on various physical properties of plastic **03**
 - (b) State the functions of (1) facing sand (2) backing sand (3) system sand and (4) core sand **04**
 - (c) Discuss working of cupola furnace in brief with required diagram **07**
- OR
- Q.2**
- (c) What is gating system? What are its functions? Explain any two types of gates with its advantages **07**
- Q.3**
- (a) Define lapping. Explain any one method **03**
 - (b) Enlist the types of flames for gas welding and describe any one with neat sketch **04**
 - (c) Explain (1) Sweep pattern (2) Match plate pattern with neat sketch **07**
- OR
- Q.3**
- (a) What are the applications of ceramic coating? **03**
 - (b) Explain electron beam welding process with required diagram **04**
 - (c) Explain centrifugal casting process with neat diagram **07**
- Q.4**
- (a) List the factors playing a major role in selection of manufacturing process. Discuss any one in brief **03**
 - (b) Elaborate on the importance of manufacturing processes in context of the recent developments in industry **04**
 - (c) Discuss submerged arc welding process in the context of its characteristic features, types of current, power sources, process variables **07**
- OR
- Q.4**
- (a) What is straight and reverse polarity? Discuss in brief **03**
 - (b) List the types of welding joints and explain any one in brief with required sketch **04**
 - (c) Discuss laser beam welding process in the context of its characteristics features, capabilities and its applications **07**

Q.5	(a) Compare brazing and soldering	03
	(b) Differentiate between direct and indirect extrusion	04
	(c) Explain blanking, piercing, coining and embossing in brief with required diagrams	07
	OR	
Q.5	(a) Classify metal joining processes	03
	(b) Differentiate between forward and backward extrusion processes	04
	(c) Explain the principle and operation of rolling process	07
