

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 4 – EXAMINATION – SUMMER 2026

Subject Code: 3141908

Date: 30/05/2026

Subject Name: Manufacturing Processes

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.**

- Q.1**
- (a) Briefly Classify Machine Tools. **03**
 - (b) Explain primary cutting motions for Lathe machine, Milling machine and Shaper. **04**
 - (c) With neat diagram, explain elements and important angles of single point cutting tool. **07**
- Q.2**
- (a) Enlist various operations performed on the lathe. **03**
 - (b) Write note on different types of chucks used on lathe machine. **04**
 - (c) With a neat sketch, explain Engine lathe. State functions of each part. **07**
- OR
- Q.2**
- (c) Write comparison between Capstan and Turret lathe. **07**
- Q.3**
- (a) Write short note on Rotating Dead centre. **03**
 - (b) Explain Taper turning on lathe machine. **04**
 - (c) Explain size of Lathe. Explain various types of lathe machines with their general specifications. **07**
- OR
- Q.3**
- (a) Explain the following operations which are performed on drilling machine **03**
1) Counter sinking 2) Trepanning
 - (b) Sketch the twist drill with its nomenclature. **04**
 - (c) Explain with neat sketch Radial drilling machine. **07**
- Q.4**
- (a) Compare Up milling and Down milling. **03**
 - (b) Write note on Indexing methods used in Milling machine. **04**
 - (c) Describe Precision boring machine with neat sketch. **07**
- OR
- Q.4**
- (a) Differentiate between a Shaper and a Planer. **03**
 - (b) Explain Whitworth quick Return mechanism. **04**
 - (c) Discuss the following operations : **07**
Gear milling, Straddle milling and Face milling
- Q.5**
- (a) List various types of Sawing machines. **03**
 - (b) Draw neat sketch of Vertical band saw machine. **04**

(c) Write down the advantages and limitations of Broaching machine. **07**

OR

Q.5 (a) Explain truing and dressing of grinding wheel. **03**

(b) Differentiate between Centre type Grinding machine and Centre less grinding machines. **04**

(c) How grinding wheel is specified? Explain in detail. **07**
