

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (NEW) EXAMINATION – SUMMER 2022****Subject Code:2131903****Date:13-07-2022****Subject Name:Manufacturing Process-I****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) What is manufacturing process? List types of manufacturing processes. | 03 |
| | (b) What do you understand by cutting tool nomenclature? Sketch and label tool angles. | 04 |
| | (c) List the various operations performed on lathe machine. Explain any four operations in detail with neat sketch. | 07 |
| Q.2 | (a) Describe Taper turning by swiveling the compound rest method with neat sketch. | 03 |
| | (b) Describe any two work holding devices used on the lathe. | 04 |
| | (c) Name the accessories commonly used to enhance the lathe operation. Explain different types of rests. | 07 |
| OR | | |
| | (c) State the advantages of all geared headstock as against a belt driven headstock. Explain the function of a half nut during lathe operation with a neat sketch. | 07 |
| Q.3 | (a) Name drill bit materials. Which material is mostly used? | 03 |
| | (b) Explain Jig boring machine with neat sketch. | 04 |
| | (c) Explain any six operations performed on drilling machine with neat sketch | 07 |
| OR | | |
| Q.3 | (a) How does a boring operation differ from a turning operation? | 03 |
| | (b) How the size of a drilling machine is specified? Discuss. | 04 |
| | (c) Classify drills. Explain nomenclature of twist drill with neat sketch. | 07 |
| Q.4 | (a) What is indexing? Describe direct indexing, with example. | 03 |
| | (b) Differentiate the up-milling process with down milling process. | 04 |
| | (c) Enlist various Milling Operations. Discuss the following operations.
1. Profile Milling 2. Gang Milling 3. End Milling | 07 |
| OR | | |
| Q.4 | (a) Give detail classification of milling machine. | 03 |
| | (b) Name the alignment tests required for milling machine to give best quality Product. | 04 |
| | (c) Explain Different Types of Broaching Machines with neat sketch. | 07 |
| Q.5 | (a) Explain the importance of grain size in Grinding Process. | 03 |
| | (b) Explain types of bonding process of abrasives with grinding wheel (any three) | 04 |
| | (c) What is the meaning of dressing and truing of grinding wheel? List the various factors for selecting grinding wheels. | 07 |

OR

- Q.5** (a) Explain how to cut internal keyway on slotter machine with neat sketch. **03**
- (b) Write down difference between shaper and planer Machine. **04**
- (c) With the help of figure explain 'Hydraulic' shaper mechanism. **07**
