

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019

Subject Code: 2131903

Date: 04/06/2019

Subject Name: Manufacturing Process-1

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.**

- Q.1**
- | | | |
|-----|---|-----------|
| (a) | Explain various factors which are affecting tool life. | 03 |
| (b) | Explain the importance of back rake and end relief angles in a single point cutting tool. | 04 |
| (c) | Define a Basic Machine Tool. Classify them. What are the general requirements of machine tools? | 07 |

- Q.2**
- | | | |
|-----|---|-----------|
| (a) | With the help of figure explain “Taper turning by swiveling the compound rest method. | 03 |
| (b) | Give the comparison between a turret lathe and capstan lathe. | 04 |
| (c) | Explain primary and auxiliary motions with reference to machine tool. | 07 |

OR

- | | | |
|-----|---|-----------|
| (c) | State the advantages of all geared head stock as against a belt driven headstock. Explain the function of a half nut during lathe operation with a neat sketch. | 07 |
|-----|---|-----------|
- Q.3**
- | | | |
|-----|---|-----------|
| (a) | Explain Speed, Feed and Depth of cut in Lathe Machine. | 03 |
| (b) | Write a short note on “Horizontal Boring Machine” | 04 |
| (c) | Explain gang drilling machine with a neat sketch. How does it differ from multiple spindle drilling machines? | 07 |

OR

- Q.3**
- | | | |
|-----|--|-----------|
| (a) | List the operations which can be carried out on drill machine. | 03 |
| (b) | Write a short note on: “Band Sawing Machine” | 04 |
| (c) | What are the advantages, limitations and applications of broaching? Explain “Pull broaching” and “Push Broaching”. | 07 |
- Q.4**
- | | | |
|-----|---|-----------|
| (a) | Give classification of milling machine. | 03 |
| (b) | Name the alignment tests required to be carried out on a milling machine. | 04 |
| (c) | Enlist various Milling Operations. Discuss the following operations. 1. Straddle Milling 2. Face Milling 3. End Milling | 07 |

OR

- Q.4**
- | | | |
|-----|---|-----------|
| (a) | What is the principle of working of shaper? | 03 |
| (b) | State difference between planner and shaper. | 04 |
| (c) | With the help of figure explain ‘Hydraulic’ shaper mechanism. | 07 |

- Q.5** (a) State difference between Up-milling & Down-Milling **03**
(b) Explain simple indexing and compound indexing in milling. **04**
(c) Draw neat sketch of column & knee type milling machine. Label the main parts. State functions of each part. **07**

OR

- Q.5** (a) Explain the following terms. **03**
i) Glazing ii) Loading iii) Dressing
(b) Describe the coding of grinding wheel as per ISI. **04**
(c) With neat sketch explain external Center less Grinding Machine. **07**
