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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**

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