

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2020****Subject Code:2131903****Date:10/03/2021****Subject Name:Manufacturing Process-1****Time:10:30 AM TO 12:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the term ‘Machine Tool’ and how is it different from machine. **03**
 (b) What is the difference between production machine tools and special purpose machine tools? **04**
 (c) Give the Classification of Machining Processes and Also discuss the major factors influence the selection of a suitable machining process. **07**
- Q.2** (a) How is lathe specified? Explain with neat sketch. **03**
 (b) Compare the applications, accuracies and disadvantages of 3-jaw and 4-jaw chucks. **04**
 (c) Explain the steady rest and follower rest as used in engine lathes. Give their functions. **07**
- Q.3** (a) Explain the difference between sensitive drilling machine and vertical drill press. **03**
 (b) Explain Jig Boring Machines. **04**
 (c) Explain horizontal boring machine with neat sketch. **07**
- Q.4** (a) Write a short note on : ‘ Shaper Feed Mechanism’ **03**
 (b) Explain the different operations performed with the help of drilling machine. **04**
 (c) Explain twist drill nomenclature with neat sketch. **07**
- Q.5** (a) List out various planner drive and feed mechanisms. **03**
 (b) List out the advantages and disadvantages of hydraulic drives. **04**
 (c) Write a short note on : (1) Gang milling (2) Straddle milling (3) String milling **07**
- Q.6** (a) How is the size of a milling machine specified? **03**
 (b) What are the basic table movements available on a universal milling machine? **04**
 (c) Give the differences among shaper, planner and slotter. Discuss Briefly the planner driving mechanism. **07**
- Q.7** (a) Explain the function of face plate and lathe dog in lathe machine. **03**
 (b) Explain Up milling with help of neat sketch. **04**
 (c) What are the advantages, limitations and applications of broaching? Explain “Pull broaching” and “Push Broaching”. **07**
- Q.8** (a) Explain the importance of grain size in Grinding Process. **03**
 (b) Differentiate between centre type and centre less grinding machines. **04**
 (c) Why alignment test are required on machine tool? With a neat sketch explain any two alignment test. **07**
