

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (OLD) EXAMINATION – WINTER 2018****Subject Code:131903****Date:10/12/2018****Subject Name:Manufacturing Process-I****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.

- Q.1** (a) Classify machine tools in detail. Explain types of motions in machine tools with examples. **07**
(b) Discuss various lathe operations with neat sketch. **07**
- Q.2** (a) Explain different taper turning methods. **07**
(b) Enlist various alignment tests carried out on Lathe machine to check accuracy level. Describe any two with neat sketch. **07**
- OR**
- (b) Explain various work holding devices of lathe machine. **07**
- Q.3** (a) Differentiate Capstan and Turret Lathe. **07**
(b) With figure explain the twist drill nomenclature. **07**
- OR**
- Q.3** (a) Discuss radial drilling machine with neat sketch. **07**
(b) Classify boring machine. Explain horizontal boring machine and jig boring machine with neat sketch. **07**
- Q.4** (a) With a neat sketch explain the working of crank and slotted lever quick return mechanism of a Shaper. **07**
(b) Write classification of milling machine. Explain principal parts of column and knee type horizontal milling machine with neat sketch. **07**
- OR**
- Q.4** (a) Discuss and differentiate Up milling and Down milling process. **07**
(b) List various types of planers. Describe various differences between Shaper and Planner. **07**
- Q.5** (a) List the principal types of metal cutting saws. Describe working of reciprocating and circular sawing machine. **07**
(b) Classify Broaching machine. Explain Horizontal Pull Type Broaching machine. **07**
- OR**
- Q.5** (a) Discuss Grain size, Structure and Bond type with reference to grinding wheel. **07**
(b) Differentiate between centre type and centre less grinding machines. **07**
