

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2016****Subject Code:2152007****Date:11/05/2016****Subject Name:Manufacturing Technology - 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.

- Q.1** (a) Explain single point cutting tool Geometry. **07**  
(b) Explain primary cutting motion. With schematic diagrams explain different machine tools and primary cutting motions. **07**

- Q.2** (a) Discuss about attachments extending the processing capacities of engine lathe **07**  
(b) Discuss briefly about work holding devices with neat sketch. **07**

**OR**

- (b) What are the different methods available to produce a taper on lathe machine ? **07**  
Describe any two of the taper turning methods with neat sketch.

- Q.3** (a) Describe with neat sketch **07**  
(a) Taping (d) Counter Sinking  
(b) Spot Facing (e) Spring Winding  
(c) Spinning  
(b) How many types of drilling machines? Explain with neat sketch upright drilling machine. **07**

**OR**

- Q.3** (a) Explain difference between gang drilling machine and multiple spindle drilling machine with proper diagram. **07**  
(b) Classify the boring machine and explain its principle. **07**
- Q.4** (a) Give the types of milling machines. Explain column and knee type with neat sketch. **07**  
(b) Discuss and describe quick return mechanism and auto feed mechanism of shaper machine. **07**

**OR**

- Q.4** (a) Discuss different milling cutters which are used on milling machine with neat sketch. Also briefly mention the function of each milling cutter. **07**  
(b) What is sawing? Give classification of sawing machine and explain band sawing machine with advantages and limitation. **07**

- Q.5** (a) Explain comparison of up milling and down milling. **07**  
(b) What is mandrel? Explain different types of mandrels. **07**

**OR**

- Q.5** (a) Explain the following milling machine operation with sketch. **07**  
String milling; Straddle milling; gang milling  
(b) Explain following operations with neat sketches **07**  
(a) Honing (b) Buffing (c) Lapping (d) Burnishing

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