

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – WINTER • 2014****Subject Code: 2131903****Date: 18-12-2014****Subject Name: Manufacturing Processes - I****Time: 02.30 pm - 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) Give the Classification of Machining Processes and Also discuss the major factors influence the selection of a suitable machining process. **07**
- (b) Explain size of Lathe. Also describe various types of Lathes along with their applications and general specifications. **07**
- Q.2** (a) Describe Turning operation in Lathe Machine. Also discuss Shoulder Turning and Eccentric Turning with neat sketch. **07**
- (b) What is Tool Signature and Tool Geometry ? Explain importance of tool angles for single point cutting tool in brief. **07**
- OR**
- (b) Write a short note on “Turret Lathe”. **07**
- Q.3** (a) Enlist various operations carried out on drilling machine. Also explain Tapping, Trepanning and Countersinking. **07**
- (b) Discuss briefly, with a neat sketch, horizontal boring machine. **07**
- OR**
- Q.3** (a) Explain Radial drilling machine with neat sketch. **07**
- (b) Give the comparison between boring and reaming. Also describe Precision boring machine with neat sketch. **07**
- Q.4** (a) What is Indexing? Enlist and Discuss various types of Indexing. **07**
- (b) Explain Hydraulic shaper mechanism in details and also discuss the quick return motion of Hydraulic shaper. **07**
- OR**
- Q.4** (a) Enlist various Milling Operations. Discuss the following operations. **07**
1. Straddle Milling
 2. Gear Milling
 3. Face Milling
- (b) Give the differences among shaper, planner and slotter. Discuss Briefly the planner driving mechanism. **07**
- Q.5** (a) What are the advantages, limitations and applications of broaching ? Explain “Pull broaching” and “Push Broaching”. **07**
- (b) What is an Abrasive? How are abrasive Classified? Enlist and explain various abrasives used in grinding wheels. **07**
- OR**
- Q.5** (a) Write a short note on: “Band Sawing Machine” **07**
- (b) With neat sketch explain Center less Grinding Machine. **07**
