

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**
