

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER III– • EXAMINATION – Winter 2013

Subject Code:131903**Date: 26/11/2013****Subject Name: Manufacturing Process - I****Time: 02:30 to 05:00****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 with neat sketches the Primary cutting motions for lathe, drilling machine, planing machine, shaper, grinder, milling and broaching machine. **07**
- (b) With a neat sketch explain horizontal boring machine and give function of its various parts. **07**
- Q.2** (a) List various taper turning methods and explain in detail with a neat sketch the taper turning method using the attachment. **07**
- (b) List various types of work holding devices used in a lathe and discuss in details with neat sketches various types of dead centres. **07**
- OR**
- (b) Explain hydraulic quick return mechanism in a shaper with a neat sketch. **07**
- Q.3** (a) With neat sketches explain the various operations performed on lathe. **07**
- (b) List different indexing methods used in milling machine and explain in detail plain indexing with a neat sketch the layout of the drive from the universal dividing head to the work piece. **07**
- OR**
- Q.3** (a) List various types of grinding machines and with a neat sketch explain centre less grinding machine. **07**
- (b) List various types of drilling machine and explain with a neat sketch gang drilling machine. **07**
- Q.4** (a) List various types of planers. Compare in detail Shaper and planer. **07**
- (b) Can slotter be called as vertical shaper? Justify your answer. With neat sketch explain operations performed on slotter. **07**
- OR**
- Q.4** (a) List various types of sawing machines and explain with neat sketch Band sawing machine. **07**
- (b) What is broaching? Give detailed classification of the broaches. **07**
- Q.5** (a) With neat sketches discuss the operations that can be performed on drilling machine. **07**
- (b) With a neat sketch explain working of back gear arrangement on the lathe machine. **07**
- OR**
- Q.5** (a) Discuss in detail the factors to be considered for selection of the grinding wheels. **07**
- (b) What is the need of alignment test for a machine tool? What tools are used in these tests? List the alignment tests to be carried out on the Milling machine. **07**
