

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, planning 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**
