

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- III (NEW) • EXAMINATION – SUMMER 2015

Subject Code: 2133404**Date: 04/05/2015****Subject Name: Basic Manufacturing Processes****Time: 02.30pm-05.00pm****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) State the operations which may be performed on a lathe and explain any two with neat sketch. **07**
(b) What are the Steady and Follower Rests? Why are they used? **07**
- Q.2** (a) How a lathe is specified? Explain. **07**
(b) Determine the angle at which the compound rest will be swiveled when cutting a taper on a piece of work having the following dimensions: (i) outside diameter of the rod is 60 mm (ii) length of the tapered portion 80 mm (iii) smallest diameter on the tapered end of the rod 20 mm. **07**
- OR**
- (b) Calculate the tail stock set-over for turning a taper on a job such that its two diameters are 80 mm and 50 mm. Total length of the job is 300 mm and the length of the tapered portion is 200 mm only. **07**
- Q.3** (a) What are the advantages of hydraulic shaper over crank shaper? Explain **07**
(b) How will you adjust the length of stroke in shaper? Explain. **07**
- OR**
- Q.3** (a) List out the various operations to be performed on a drilling machine and explain any two with neat sketch. **07**
(b) Describe twist drill nomenclature using sketches. **07**
- Q.4** (a) Explain different types of milling cutters with neat sketch. **07**
(b) Explain with neat sketch that how “T” slot will be made on milling machine. **07**
- OR**
- Q.4** (a) Differentiate between up milling and down milling. **07**
(b) What is indexing? Explain plain indexing by giving suitable example. **07**
- Q.5** (a) How a grinding wheel marked (coded)? Describe Indian Standard marking system. **07**
(b) What is centreless grinding? Describe it with neat sketch. **07**
- OR**
- Q.5** (a) Explain Trueing and Dressing of grinding wheel. **07**
(b) Why it is necessary to balance the grinding wheel? **07**