

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-III Examination May 2012

Subject code: 131903

Subject:- Manufacturing Process-I

Date: 08/05/2012

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) Explain the functions of the basic parts of the lathe with neat sketches. **07**
- (b) Explain various work holding devices of lathe machine. **07**
- Q.2** (a) Discuss various lathe operations with neat sketches. **07**
- (b) Explain the principle of quick return motion in the shaper. Explain withworth quick return mechanism. **07**
- OR**
- (b) How lathe machine is specified. Explain in details. Discuss the alignment test of the lathe machine. **07**
- Q.3** (a) Describe Radial Drilling machine with its main parts and Explain its applications. **07**
- (b) Differentiate between Capstan and Turret lathe. **07**
- OR**
- Q.3** (a) Sketch the twist drill with it's nomenclature. **07**
- (b) Differentiate between shaper and Planer. **07**
- Q.4** (a) Explain various operations carried out on boring machines. **07**
- (b) Explain plain and universal milling. **07**
- OR**
- Q.4** (a) Explain Jig Boring machine with it's applications. **07**
- (b) Derive the equation for calculating the taper angle by compound slide method on lathe operation. **07**
- Q.5** (a) How grinding wheel is specified? Explain in details. **07**
- (b) A mild steel rod having 50 mm diameter and 500 mm length is to be turned on a lathe. Determine the machining time to reduce the rod to 45 mm in one pass when cutting speed is 30 m/min and a feed of 0.7 mm/rev. **07**
- OR**
- Q.5** (a) Explain glazing, loading and mounting of grinding wheel. **07**
- (b) Discuss various broaching methods in details with its applications. **07**
