

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) Discus various broaching methods in details with its applications. 07
