

GUJARAT TECHNOLOGICAL UNIVERSITY
Diploma Engineering Semester –III Examination Dec. 2011

Subject code: 335501**Date: 21/12/2011****Subject Name: Mechanical Technology****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered Authentic.

- Q.1** (a) Explain Need, scope & importance of machine tools in manufacturing industries **07**
(b) Explain mechanism of chips formation and different types of chips with neat sketch **07**
- Q.2** (a) Explain characteristics of ideal cutting tool material. List different tool materials **07**
(b) Describe functions of each main parts of a lathe with neat sketch. **07**
- OR**
- (b) Describe function of cutting fluid. List different types of cutting fluids. **07**
- Q.3** (a) Calculate metal removal rate with following given data **07**
DIA OF JOB = 60 MM
RPM = 100
FEED RATE = 0.015 MM / REV
DEPTH OF CUTT = 0.5 MM
LENGTH OF JOB = 100MM
(b) Explain radial drilling machine with neat sketch. **07**
- OR**
- Q.3** (a) Explain difference between shaper and planner **07**
(b) Draw neat sketch of Horizontal milling machine and describe its working **07**
- Q.4** (a) Draw and explain any five milling operations with neat sketch **07**
(b) Explain different constant and variable factor for selecting grinding wheel **07**
- OR**
- Q. 4** (a) Explain specification system of grinding wheel as per BIS **07**
(b) Describe different pattern making materials **07**
- Q.5** (a) Explain pattern allowance and color codes **07**
(b) Explain different casting defects with neat sketch. **07**
- OR**
- Q.5** (a) Explain difference between hot working and cold working of metal **07**
(b) Describe work hardening **07**
