

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.

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|-------------|---|-----------|
| 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
DIA OF JOB = 60 MM
RPM = 100
FEED RATE = 0.015 MM / REV
DEPTH OF CUTT = 0.5 MM
LANTH OF JOB = 100MM | 07 |
| | (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 allow ness 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 |
