

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-III • EXAMINATION – SUMMER 2013****Subject Code: 335501****Date: 06-06-2013****Subject Name: Mechanical Technology****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.
4. English version is considered to be Authentic.
5. Draw a neat sketch whenever necessary.

- Q.1** (a) Explain the need of attitude, knowledge & skill required as a shop floor supervisor in machine tool industries. **07**
- (b) Compare orthogonal and oblique cutting with neat sketch **07**
- Q.2** (a) Draw block diagram of lathe, label its various parts **07**
List the various types of lathes M/Cs used in industries ?
- (b) A work piece 1m long has a taper 1:80 for a length of 50 cm. The maximum dia. = 7.5 cm. **07**
Calculate
1) the minimum diameter 2) the amount of set over
- OR**
- (b) Explain in brief with neat sketch : compound rest (Slide) method of taper turning . **07**
- Q.3** (a) Draw single point cutting geometry having tool signature 9-15-7-6-7-10-0.8 in A.S.A. system. **07**
- (b) Define cutting speed, feed, depth of cut & M.R.R. and Calculate metal removal rate with following given data **07**
Dia. Of job = 6 cm
R. P. M. = 300
Feed rate = 0.015 mm / rev
Depth of cut = 0.5 mm
Length of job = 25cm
- OR**
- Q.3** (a) Draw a block diagram of radial drilling machine and label its parts. State the specification of it ? **07**
- (b) Explain the working principle of shaper with neat sketch. **07**
- Q.4** (a) List out the various milling operations ? **07**
Explain Any five of them with neat sketch ?
- (b) Explain in brief with neat sketch : Indexing head of milling M/CS ? **07**
- OR**
- Q.4** (a) Explain the (designation) /marking system of grinding wheel in chart forms ? **07**
- (b) Explain the different steps involved in process of making a casting ? **07**

- Q.5**
- (a) Explain advantages and application of metal casting process ? **07**
 - (b) Explain the different pattern making materials with typical Application ? **07**
- OR**
- Q.5**
- (a) Differentiate Hot working & Cold working process, state their typical applications ? **07**
 - (b) Explain concept of rolling with neat sketch? **07**
