

**GUJARAT TECHNOLOGICAL UNIVERSITY****Diploma Engineering - SEMESTER-III • EXAMINATION – WINTER • 2014****Subject Code: 3335502****Date: 27-11-2014****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 to be Authentic.

- Q.1** (a) Define the term 'machine tool'. **07**  
Explain function & classification of machine tool.
- (b) Draw neat sketch of centre lathe and label its parts. **07**
- Q.2** (a) A Work piece 750 mm long has a taper 2 in 100 for a length of 400 mm. The maximum dia.=70 mm. Calculate **07**  
(1) Minimum diameter (2) Amount of set over
- (b) Explain in brief : factors affecting efficiency of single point cutting tool. **07**  
Write classification of single point cutting tool.
- OR
- (b) Explain in brief : Elements of drilling machine with block diagram. **07**
- Q.3** (a) Draw block diagram of shaper machine & label its parts. **07**  
Explain specification of a shaper.
- (b) List different milling operation and explain any five with neat sketch. **07**
- OR
- Q.3** (a) Compare shaper and planner machine. **07**  
(b) Write brief note on indexing head with neat sketch. **07**
- Q.4** (a) Explain principle of grinding with neat sketch. **07**  
(b) List out the different hand molding tools/equipments. **07**  
Explain any five with neat sketch
- OR
- Q. 4** (a) Classify the grinding wheel according to size and shape with neat sketch. **07**  
(b) Draw neat sketch of gating system and label its part. Explain function of gating system. **07**
- Q.5** (a) Draw a neat sketch of cupola and label its parts **07**  
(b) Compare Hot Working & Cold Working Process. **07**
- OR
- Q.5** (a) List out the different defects observed in casting and explain any five defects and its causes with neat sketch. **07**  
(b) Explain the merits/advantages of forging process compared with machining and casting with neat sketch. **07**

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