

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER –III • EXAMINATION – SUMMER-2015

Subject Code: 335501**Date: 02 /05 /2015****Subject Name: Mechanical Technology****Time: 2:30 pm to 5:00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks)

- Q.1 (a) Explain mechanics of metal cutting with neat sketch. 07
(b) Draw neat sketch of centre lathe and label its parts. 07
- Q.2 (a) Explain all geared head stock with neat sketch. 07
(b) A Work piece 600mm long has a taper 1 in 80 for a length of 200mm. The maximum dia.=70 mm. Calculate 07
(1) the minimum diameter (2) the amount of set over
OR
(b) Calculate metal removal rate with following given data 07
Dia of a job = 100 mm
RPM = 300
Feed Rate = 0.015mm/Rev
Depth of cut = 0.5 mm
Length of Job = 150 mm
- Q.3 (a) List different types of drilling machine and explain any TWO. 07
(b) List different operations performed on drilling machine and 07
explain any five with neat sketch.
OR
- Q.3 (a) Draw twist drill geometry and label its parts. Write specification 07
of twist drill geometry for steel & stainless steel material.
(b) Explain Slotted link quick return mechanism of shaper drive 07
mechanism with neat sketch.
- Q.4 (a) Draw block diagram of planner machine & label its parts. 07
(b) List different milling machine work holding device and explain 07
any two with neat sketch
OR
- Q. 4 (a) List different milling operation and explain any five with neat 07
sketch
(b) Explain different types of abrasives used in grinding wheel. 07
- Q.5 (a) Draw a layout of typical foundry and show different section 07
(b) Classify the pattern and explain in brief any five with neat sketch. 07
OR
- Q.5 (a) Draw neat sketch of cupola and label its parts 07
(b) Explain concept of rolling with neat sketch 07
