

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-III Examination-Dec.-2011

Subject code: 132001

Date: 17/12/2011

Subject Name: Industrial Drafting

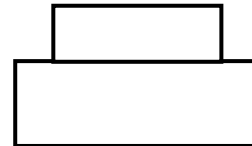
Time: 2.30 pm -5.30 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

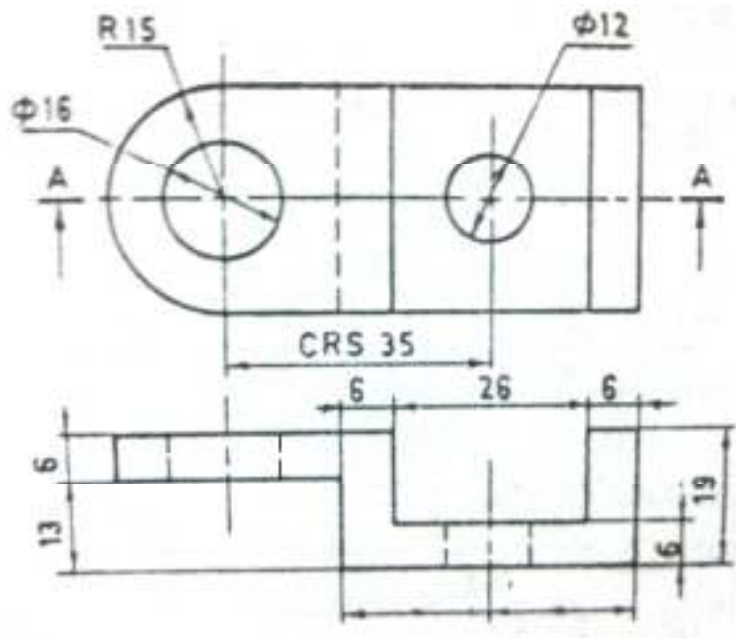
- Q.1** (a) (a) Given below is the side view. (b) Given below is the elevation. **07**
Draw at least three possible elevations. Draw at least three possible plans.



- (b) Draw according to first angle projection method:

- 1) Sectional elevation at A -A
- 2) Right hand side view
- 3) Plan

07



- Q.2** (a) List different types of bolt heads. Draw freehand sketches of any two taking nominal diameter of bolt = 25mm. Indicate all necessary proportions taken. **07**

- (b) A frustum of a cone, diameter of base 65mm, diameter of top 25mm and height 56mm is resting on HP on its base. A cylinder, diameter of base 38mm intersects the axis of frustum of a cone at right angle 27mm above the base. The axis of the cylinder is parallel to HP and VP both. Draw the projections and show lines of intersection. **07**
- OR**
- (b) A cylinder of 80mm diameter is resting on HP on its base. A cone diameter of base 90mm and height 110mm penetrates the cylinder at right angle. The axis of the cone is parallel to HP and VP both. Apex of the cone reaches 60mm beyond the axis of the cylinder. Draw the projections showing the lines of intersection. **07**
- Q.3** (a) Draw neat freehand sketches in good proportions to indicate clearly at least three different ways in which hexagonal nuts may be surely locked. **07**
- (b) Show with the help of sketch the following features on a v – thread section. Thread angle, depth of thread, angular depth, root, crest, pitch **07**
- OR**
- Q.3** (a) Sketch any three foundation bolts indicating necessary proportions taken. **07**
- (b) Draw the following thread sections and give all standard proportions. Square thread, Acme thread, Buttress thread, Knuckle thread. Show at least two complete pitch lengths for each and take pitch of thread = 20mm. **07**
- Q.4** (a) Give classification of keys and draw free hand sketches of a Gib head key and a wood ruff key. **07**
- (b) Prepare a dimensioned sketch of a knuckle joint for rod diameter 30mm. **07**
- OR**
- Q.4** (a) Compare the use of keys with the use of cotters and illustrate your answer by sketching an example of each, when used to fasten parts together. **07**
- (b) Explain following terms: waviness, lay, flaw **07**
- Q.5** (a) Explain following terms: limits, tolerance, deviation. **07**
- (b) Enlist at least 10 commands used in Auto CAD. Explain any two commands under modify tool box with suitable example. **07**
- OR**
- Q.5** (a) Explain hole based and shaft based system for fits. With the help of example explain different methods of placing limit dimensions. **07**

- (b) List the commands step by step used in context of Auto CAD to draw the following figure. 07

