01693

B.TECH. (AEROSPACE ENGINEERING) (BTAE / BTCLEVI / BTMEVI / BTCSVI / BTELVI / BTECV)

Term-End Examination

December, 2012

BAS-005 : ENGINEERING DRAWING

Time : 3 hours *Maximum Marks : 70*

Note : *Solve **any five** questions. All dimensions in mm.*

1. Draw plan and elevation (full section) of a double riveted, double cover butt joint with number of rivets twice in the inner row. Use following data : **14**

Plate thickness = 22 mm, Rivet dia = 27 mm

Rivet hole dia = 28.5 mm, Pitch = 69.6 mm

in the inner row, Back pitch = 65.03 mm

centre line of rivet rows at 42.75 mm from edge.

Thickness of cover plate = 18.5 mm.

Show all dimensions on drawing.

2. (a) Draw two views of a knuckle joint to connect rods of 36 mm diameter. The diameter of fork end and eye end each are 62 mm. The pin diameter is 36 mm. **9**

(b) Sketch a square key of size 12×12 mm^2 to be fitted in a shaft of diameter 48 mm show two views. 5

3. (a) Draw a parabola inside a rectangle of sides 50 mm $\times$ 40 mm with axis parallel to longer side. Locate the focus. 9

(b) Define epicycloid and hypocycloid. 5

4. (a) Draw external thread profile of M52 V-thread. $d = 52$mm, $d_c = 46.587$mm, $d_p = 48.75$mm, $p = 5.0$mm. 7

(b) Draw external thread profile for acme thread with major diameter = 65mm, core diameter = 55mm, pitch = 10mm. Depth of thread $= \frac{p}{2} + 0.25$. Angle of inclination of thread profile = 15°. Show the pitch diameter. 7

5. Sketch the following :

(a) Hexagonal nut 6

(b) Square nut 4

(c) Flanged nut 4

Show isometric view along with elevation, side view and top view.

6. Draw front view, side view and top view of the object shown in Fig. 1. 14

7. Fig. 2 shows elevation, side view and plan of an object. Draw its isometric view using I[st] angle projection. **14**

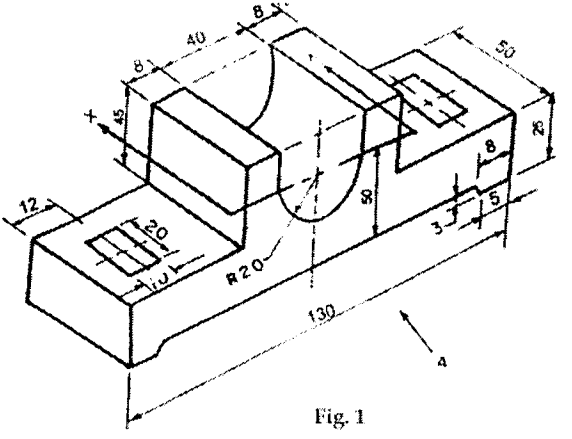

Fig. 1

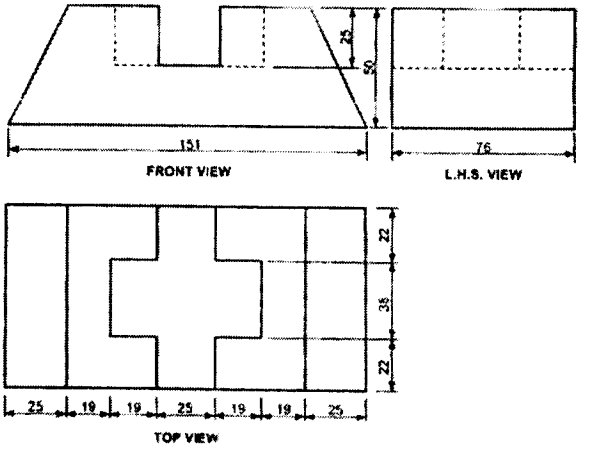

Fig. 2