Seat No: _____

GanpatUniversity
B.Tech. Sem. II (All Branches)
CBCS (NEW) Regular Examination April- June 2015
2ME102 ENGINEERING GRAPHICS

Time: 3 Hours

Total Marks: 60

Instruction: 1. Attempt all questions.
2. Write each section in separate drawing sheet
3. Assume suitable data if necessary
4. All dimensions are in mm.

Section- I

Que.1. O_1ABO_2 is a four bar chain with the link O_1O_2 as the fixed link. Driving crank O_1A is 30 mm long. Driven crank O_2B is also 30 mm long. Connecting link AB is 90 mm long. Distance between O_1 and O_2 is 90 mm. Two cranks are in opposite directions. Draw the loci of points P and R for one complete revolution of the driving crank. The point P is the mid-point of the connecting link AB and the Point R is 35 mm from A on BA extended. **(10)**

OR

Que.1. **(a)** Draw engineering curves when the distance of the focus point from the directrix line is equal to 60 mm and eccentricity is 2/3. **(6)**

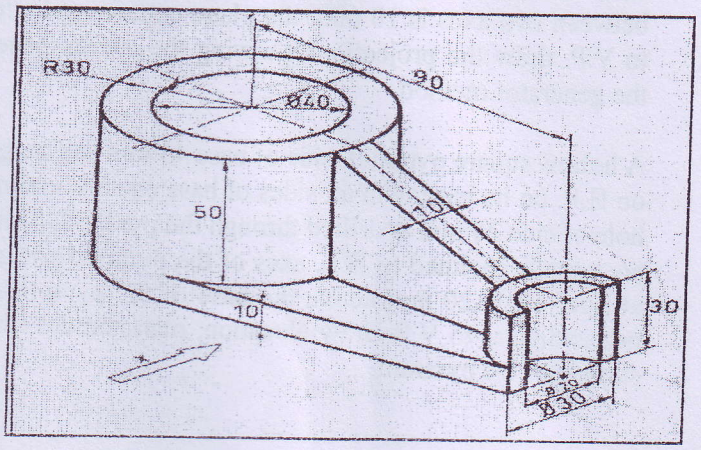
(b) Draw the pentagonal using special method **(4)**

Que.2. A straight line AB is 70 mm long. It is inclined to H.P. and V.P. by an angle of 30^0 and 45^0 respectively. Point A is 30 mm below H.P. and 20 mm behind V.P. Draw the projections of straight line AB. **(10)**

OR

Que.2. A square ABCD of 50 mm side has its corner A in the H.P., its diagonal AC inclined at 30° to the H.P. and the diagonal BD inclined at 45° to the V.P. and parallel to the H.P. Draw its projections. **(10)**

Que.3. Draw the orthographic projection using 1st angle projection system **(10)**
(i) Front View from X direction (ii) Top View (iii) R.H.S.V.



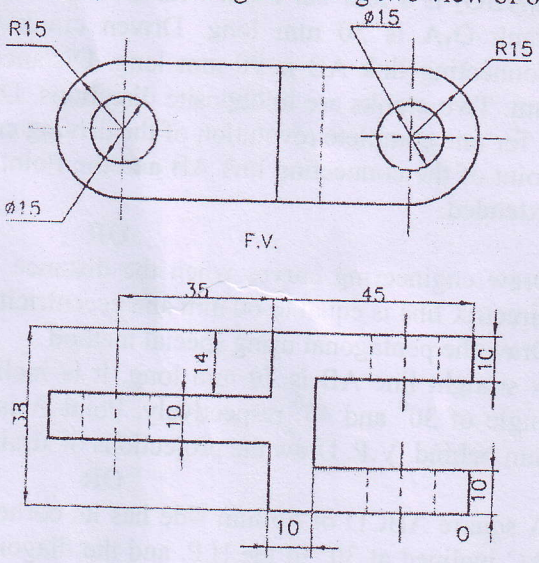
Section- II

Que.4. A pentagonal pyramid, edge of base 50 mm and height 75 mm, resting on a corner of its base on H.P. in such a way that the slant edge containing that corner makes an angle of 60° with H.P. and 30° with V.P. Draw the projection **(10)**

OR

Que.4. A pentagonal pyramid, side of base 40 mm and height 80 mm, is resting on H.P. on its base with one of the edges of the base, nearer to V.P., is parallel to V.P. It is cut by A.V.P. inclined to V.P. by 45°. Cutting plane remains 12 mm away from the axis. Draw sectional elevation, plan and the true shape of the section. **(10)**

Que.5. Draw the Isometric projection using following two view of object **(10)**



OR

Que.5. A cone diameter of base 70 mm and height 80 mm is resting on H.P. on its base. A cylinder of 40 mm diameter is penetrating the cone from the top side. The axis of cylinder is parallel to the axis of the cone and distance between two axes is 10 mm. the plane containing both the axes is parallel to V.P. draw the projections showing the curves penetration. Solve it by the generator method. **(10)**

Que.6. A hollow square pyramid, side of base 45 mm and height 65 mm, is resting on H.P. on its base with all sides of base equally inclined to V.P. A square hole of side 20 mm is drilled through the pyramid. Sides of the square hole are equally inclined to H.P. axes of the pyramid and square hole intersect at right angle 20 mm above the base of the pyramid. Axis of the hole is perpendicular to V.P. draw elevation, plan and development of the lateral surface of the pyramid. **(10)**

Best Luck

End of Paper