

another circle with radius R outside is $R = 3r$ and $r = 20$ mm. 20

4. A line AB, 70 mm long is inclined at 60° to the H. P. and its plan makes an angle of 45° with the V.P. The end A is in the H. P. and 15 mm in front of the V.P. Draw its front view and find its true inclination with the V.P. 20
5. A cone with 80 mm dia base and height 90 mm is resting on its base. The cone is cut by a plane at a distance of 10 mm from the vertex and parallel to the central axis. Draw its plane, front elevation, side elevation and the true shape of the cut surface. 20
6. A regular Hexagonal pyramid with the side of its base 30 mm and height 80 mm rests on one edge of the base. The base is tilted until its apex is 50 mm above the level of the edge of the base on which it rests. Draw the projection of the pyramid when the edge on which it rests is parallel to V.P. and the apex of the pyramid point towards V.P. 20
7. A cone of Base of 100 mm dia and height 110 mm is drilled through the central axis by a triangular presses of side 30 mm and one of its side is parallel to the base of the cone. The lower point of triangular prim is 10 mm above the base of cone. Draw the plan and front view of the cone. 20

FIRST ARCHITECTURE PART-I EXAMINATION, 2008

(1st Semester)

DESCRIPTIVE GEOMETRY

Time : Three hours

Full Marks : 100

*Question No. 1 compulsory and any **four** others from the rest.*

1. a) Inscribe a regular pentagon in a given circle of dia 80 mm. 5
- b) Given the Fibonacci series 11 2 3 5 8 13. Draw the curve generated by the series. 5
- c) Draw the locus of a point P moving in such a way that its distance from the fixed straight line is $2/3$ its distance from the fixed point. The fixed point is 80 mm from the fixed line. 10
- OR
- The major axis of an ellipse is 100 mm long and the foci are at a distance of 15 mm from its end. Find the minor axis and draw. 10
2. Construct the involute curve of a circle of 30 mm dia for one revolution. 20
3. Draw the curve generated by a point on the circumference of a circle of radius r, which rolls without slipping along