Reg. No. : | | | | | | | | | | |

Question Paper Code: 51108

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

First Semester

Civil Engineering

15UME108 – ENGINEERING GRAPHICS

(Common to EEE, Mechanical and Chemical Engineering)
(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

(5 x 20 = 100 Marks)

1. (a) A line LM 70 *mm* long has its end L 10 *mm* above HP and 15 *mm* in front of VP. The top view and front view measures 60 *mm* and 40 *mm* respectively. Draw the projections of the line and determine its inclination with HP and VP. (20)

Or

(b) A hexagonal plate of side 30 *mm* is resting on one of its sides on VP and inclined at 40^o to HP. Its surface is inclined at 35^o to VP. Draw its projections. (20)

2. (a) A right pentagonal pyramid of base side 20 *mm* and altitude 60 *mm* rests on one of its edges of the base in HP. the base being lifted up until the highest corner in it is 20 *mm* above HP. Draw the projections of the pyramid when the edge on which it rests is made perpendicular to VP. (20)

Or

(b) A cylinder of base diameter 40 *mm* and axis length 60 *mm* is resting on HP on a point on the circumference of the base. Draw its projections when the bases are inclined at 40^o to HP and parallel to VP. (20)

3. (a) A cube of 60 *mm* side has its base edges equally inclined to VP. It is cut by a sectional plane perpendicular to VP, so that the true shape of cut section is a regular hexagon. Locate the plane and determine the angle of inclination of the VT with the reference line XY. Draw the sectional top view. (20)

Or

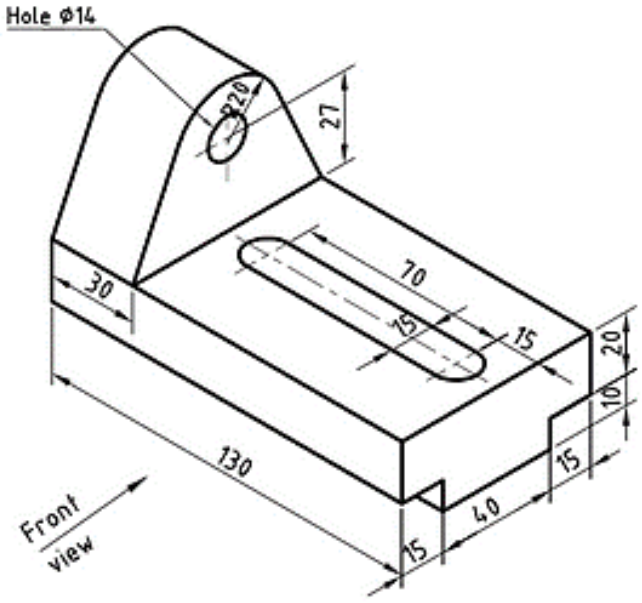
(b) A hexagonal prism of side of base 30 *mm* and axis 70 *mm* long is resting on its base on HP such that a rectangular face is parallel to VP. It is cut by a section plane perpendicular to VP and inclined at 30^{o} to HP. The section plane is passing through the top end of an extreme lateral edge of the prism. Draw the development of the lateral surface of the cut prism. (20)

4. (a) A pentagonal pyramid of base side 30 *mm* and axis length 65 *mm* is resting on HP on its base with a side of base perpendicular to VP. It is cut by a plane inclined at 30° to HP and perpendicular to VP and passes through a point at a distance 30 *mm* from the apex. Draw the isometric view of the remaining portion of the pyramid. (20)

Or

(b) A square pyramid having a side of 50 *mm* base and 75 *mm* as axis height stands centrally on circular block of 100 *mm* diameter and 50 *mm* thick. The base edges of the pyramid are parallel to VP. Draw the isometric projection of the two objects. (20)

5. (a) Draw the top view, front view and right side view of the machine element shown in below figure. (20)



Or

(b) Sketch the front, top and left side views of the machine component shown in below figure. (20)