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Total No. of Pages : 4

Seat No.	

F.E. (Part - I) (Semester - I) (Revised) Examination, May - 2015

ENGINEERING GRAPHICS

Sub. Code: 59180

Day and Date : Monday, 25 - 5 - 2015 **Total Marks : 100**

Time : 10.00 a.m. to 2.00 p.m.

Instructions :
1) **All questions are compulsory.**
2) **Retain all construction lines.**
3) **Use both sides of drawing paper.**
4) **Assume suitable data if necessary.**
5) **All dimensions are in mm.**

SECTION - I

Q1) A) Solve any three:

a) Complete the projections of line AB, if it bears S60°W wrt A, grade minus 60% and true length is 50mm. **[4]**

b) AC is one diagonal of square ABCD, the other diagonal is horizontal. Complete the projection. **[4]**

c) C is the midpoint of line RS 40mm long and parallel to line PQ. Complete its projections. **[4]**

d) Find the perimeter of triangle JKL. **[4]**

B) A 30° – 60° set square has its shortest side 50mm long and is in the H.P. The top view of the setsquare is an isosceles triangle and the hypotenuse of the setsquare is inclined at an angle of 40° with the V.P. Draw the projections of the setsquare and find its inclination with the H.P. **[13]**

Q2) A cone, diameter of base 60 mm and height 90 mm, is resting on H.P. on the point of periphery of the base. Axis of the cone makes 60° with the HP and 30° with the V.P. Draw the projections of the cone when the apex is nearer to V.P. **[13]**

P.T.O.

Q3) Solve any two:

a) A stick of length equal to the circumference of a semicircle of 40 mm radius is initially tangent to the semicircle on the right side of it. This stick now rolls over the circumference of the semicircle without sliding till it becomes tangent on the left side of the semicircle. Draw the loci of two end points of this stick. Name the curve. [6]

b) The vertex of a hyperbola is 30 mm from its directric and the eccentricity ratio of the hyperbola is 5/3. Draw the hyperbola and draw tangent and normal to the curve at a point 60 mm from directrix. [6]

c) Construct an ellipse in a parallelogram 125mm × 90mm sides. Take included angles of parallelogram as 120° and 60°. [6]

SECTION - II

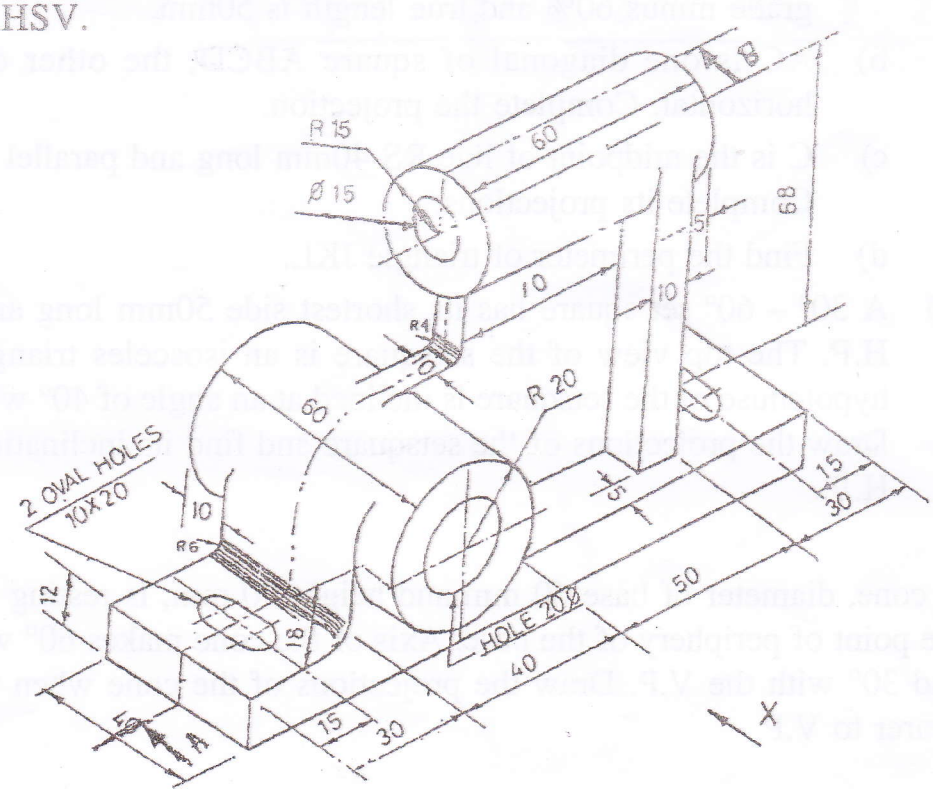
Q4) Solve : [24]

The following figure shows a block. Draw the following views :

a) Sectional FV along section AB

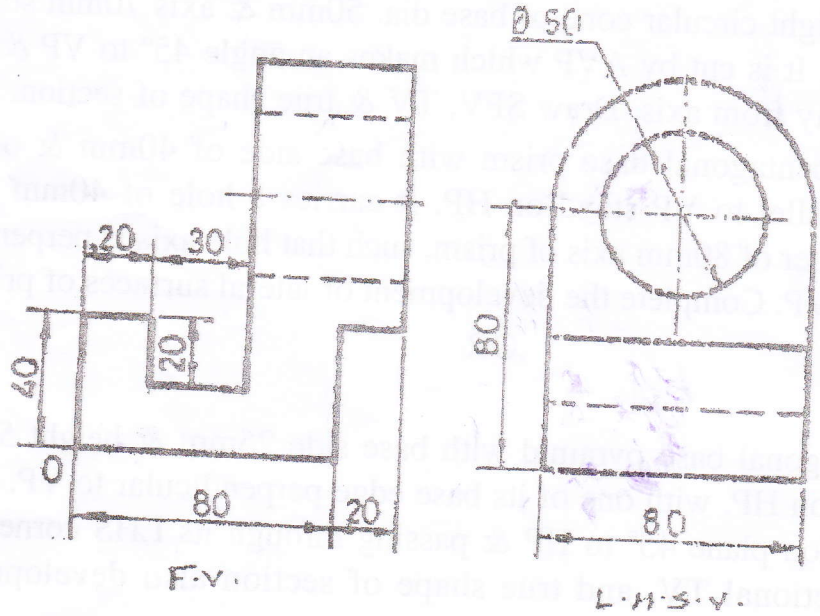
b) TV &

c) RHSV.



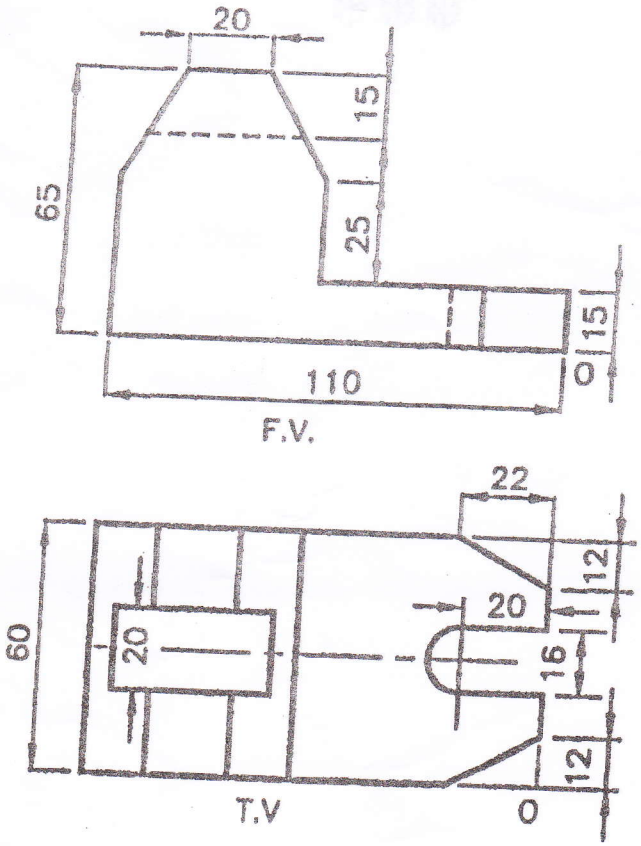
Q5) Solve any one : [13]

a) Figure shows the views. Draw its isometric view.



OR

b) Figure shows the views. Draw its isometric view.



Q6) Solve any one :

A) Solve:

a) A right circular cone of base dia. 50mm & axis 70mm stands on HP. It is cut by AVP which makes an angle 45° to VP & 10mm away from axis. Draw SFV, TV & true shape of section. [7]

b) A pentagonal base prism with base side of 40mm & one side parallel to VP stand on HP. It carries a hole of 40mm dia. At center of 80mm axis of prism, such that hole axis is perpendicular to VP. Complete the development of lateral surfaces of prism. [6]

OR

B) Solve:

A pentagonal base pyramid with base side 25mm & height 50mm is resting on HP. with one of its base edge perpendicular to VP. It is cut by section plane 45° to HP & passing through its LHS corner. Draw FV, sectional TV, and true shape of section also development of remaining part of pyramid. [13]

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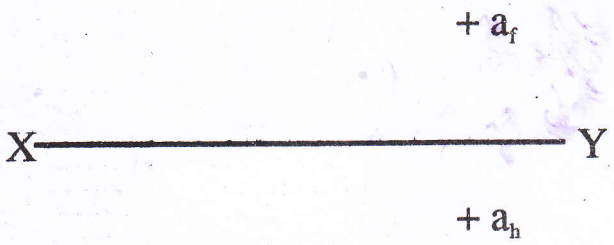

Fig. 1-a

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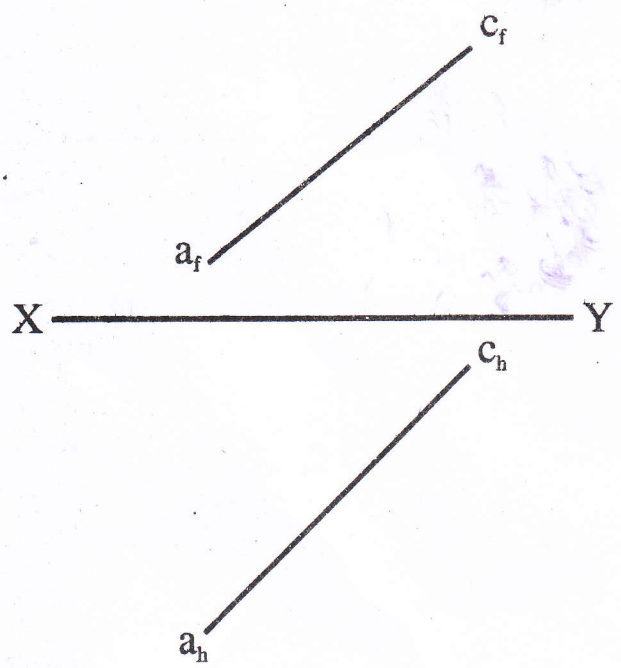

Fig. 1-b

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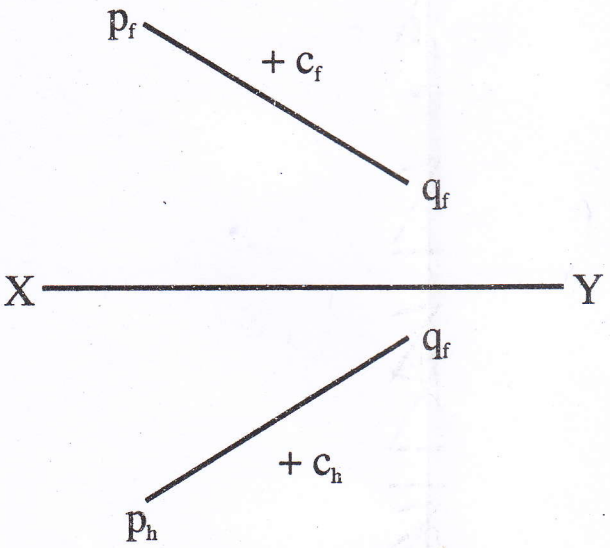

Fig. 1-c

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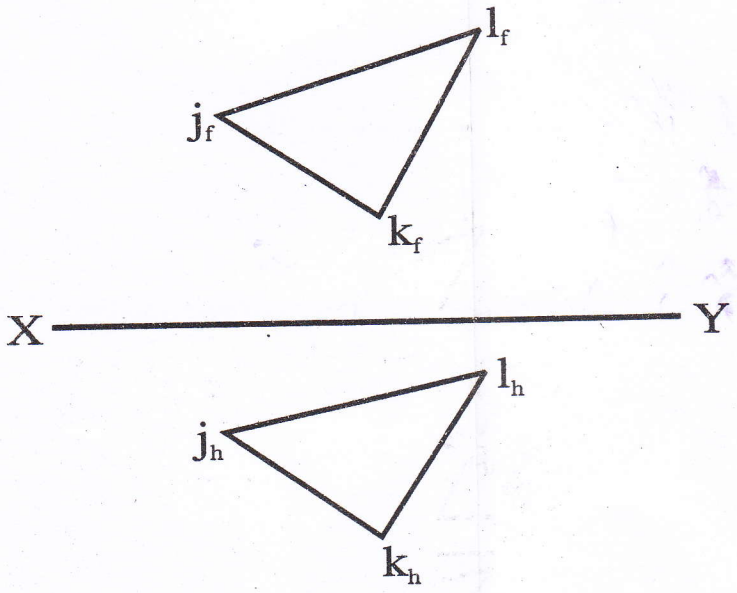

Fig. 1-d