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Question Paper Code : 57020

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

First Semester

Mechanical Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to all branches)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) A circus man rides a motor-bike inside a globe of 6 m diameter. The motor-bike has the wheel of 1 m diameter. Draw the locus of the point on the circumference of the motor-bike wheel for one complete revolution. Adopt suitable scale.
- Or
- (b) Draw the front top and side views of the component shown in fig 1(b), by free hand.

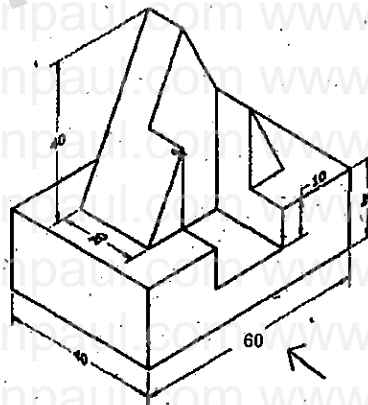


fig 1 (b)

2. (a) A straight line AB of 50 mm length has its end point A 15 mm above the HP and the end B 20 mm in front of the VP. The top view of the line is 40 mm long and the elevation is 35 mm long. Draw the projections of the line and find the true inclinations of the line with VP and the HP.
- Or
- (b) An isosceles triangular plate ABC has its base edge AB 60 mm long and on the ground inclined at 30° to VP. The length of the altitude of the plate is 80 mm. The plate is placed so that the edge AC lies in a plane perpendicular to both the HP and VP. Draw the projections of the plate and find out the angles of inclination of the plate with the HP and VP.

3. (a) A hexagonal pyramid of base side 20 mm and axis height 70 mm has one of the corners of its base in the VP and the axis is inclined at 45° to the VP and parallel to HP. Draw the front view and top view of the solid.

Or

- (b) A bucket in the form of the frustum of a cone has diameters 300 mm and 750 mm at the bottom and the top respectively. The bucket height is 800 mm. The bucket is filled with water and then tilted through 40° . Draw the projections showing water surface in both the views. Remember that the axis of the bucket is parallel to the VP.
4. (a) A rectangular pyramid of base $30\text{ mm} \times 50\text{ mm}$ and axis 50 mm is resting on its base with the longer edge of the base parallel to the VP. It is cut by a section plane perpendicular to the VP, inclined at 30° to the HP and passing through a point on the axis 20 mm from the apex. Draw the front view, the sectional top view and the true shape of such a section of the pyramid.

Or

- (b) Draw the development of the lateral surface of a right regular hexagonal prism of 25 mm base edge and 60 mm height. An ant moves on its surface from a corner on the base to the diametrically opposite corner on the top face, by the shortest route along the front side. Sketch the path in the elevation.
5. (a) A sphere of 18 mm is placed centrally over a hexagonal slab of side 24 mm and thickness 25 mm. Draw the isometric view of the combination.

Or

- (b) Draw the perspective view of a rectangular prism of $80\text{ cm} \times 48\text{ cm} \times 36\text{ cm}$ size, lying on its $80\text{ cm} \times 48\text{ cm}$ rectangular face on the ground plane, with a vertical edge touching the picture plane and the end faces inclined at 60° with picture plane. The station point is 80 cm in front of the picture plane, 64 cm above the ground plane and it lies in a central plane, which passes through the centre prism:



Registration number grid

Question Paper Code : 41179

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

First Semester

Mechanical Engineering

GE 6152 – ENGINEERING GRAPHICS

(Common to Mechanical Engineering (Sandwich) Aeronautical Engineering/ Agriculture Engineering/Automobile Engineering/Biomedical Engineering/ Civil Engineering/Computer Science and Engineering/Electrical and Electronics Engineering/Electronics and Communication Engineering/Electronics and Instrumentation Engineering/Environmental Engineering/Geoinformatics Engineering/Industrial Engineering/ Industrial Engineering and Management/ Instrumentation and Control Engineering/Manufacturing Engineering/Marine Engineering/Materials Science and Engineering/Mechanical and Automation Engineering/Mechatronics Engineering/Medical Electronics/Metallurgical Engineering/Petrochemical Engineering/Production Engineering/Robotics and Automation Engineering/B.E./B.Tech. (Common to all branches except Maring Engg.)Bio Technology/B.Tech. Chemical Engineering/Chemical and Electrochemical Engineering/Fashion Technology/Food Technology/Handloom and Textile Technology/Industrial Bio Technology/B.Tech. Information Technology/ Leather Technology/Petrochemical Technology /Petroleum Engineering/ Pharmaceutical Technology/B.Tech. Plastic Technology/Polymer Technology/ Rubber and Plastics Technology/Textile Chemistry/Textile Technology/Textile Technology (Fashion Technology)/Textile Technology (Textile Chemistry) (Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

(5×20=100 Marks)

- 1. a) A fixed point is 75 mm from a fixed straight line. Draw the locus of a point 'P' moving such a way that its distance from the fixed point is twice its distance from the fixed straight line. Name the curve. Draw a tangent and normal at any point on the curve.

(OR)

- b) Draw by free hand the top view, front view and right side view of the object shown in figure 1.

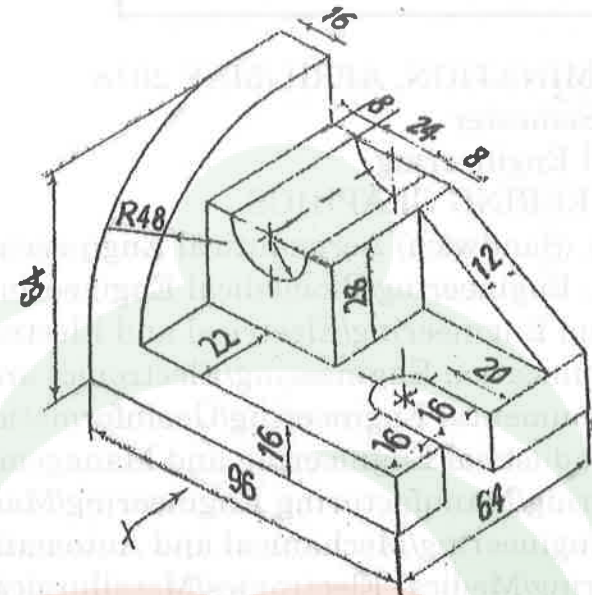


figure 1

2. a) A line AB is in the first quadrant. The top view of the line measures 60 mm and inclined to the reference line by 60° . The end point A is 15 mm above the HP and 30 mm in front of the VP. Draw the projection of the line when it is inclined at 45° to the HP. Find the true length and inclination of the line with the VP and locate the traces.

(OR)

- b) A rectangular lamina of sides 75 mm \times 40 mm is resting on the VP on one of its longer sides. The surface of the lamina is inclined 45° to the VP and the side resting on the VP is inclined 45° to the HP. Draw the projections of the lamina.

3. a) A pentagonal prism of base side 30 mm and axis length 60 mm is resting on the HP on one of its rectangular faces, with the axis inclined 30° to the VP. Draw the projections of the prism.

(OR)

- b) Draw the projections of a cube having side length 30 mm resting on the HP on one of its corners, with the solid diagonal through the resting corner is perpendicular to the HP and parallel to the VP.

4. a) A cylinder of base diameter 50 mm and height 60 mm is resting on the HP on its base. It is cut by a plane perpendicular to the VP and inclined to the HP, such that the true shape of the cut section is an ellipse with major axis 60 mm. The cutting plane also bisects the axis of the cylinder. Draw the sectional top view, sectional front view and true shape of the section. Find the inclination of the cutting plane with respect to the HP.

(OR)

- b) A cone of base 60 mm and height 80 mm is resting on its base on the HP. A cutting plane perpendicular to both the HP and VP cuts the cone a distance 15 mm to the left of the axis. Another cutting plane parallel to the HP and perpendicular to the VP cuts the cone 20 mm from the apex of the cone. Draw the development of remaining portion of the cone.

5. a) Draw the isometric view of a frustum of a hexagonal pyramid with side of base 40 mm and side of top 30 mm. The height of the frustum is 50 mm.

(OR)

- b) Draw the perspective view of a square pyramid with base side 30 mm and axis height 45 mm. The nearest edge of the base is parallel to and 20 mm behind the picture plane. The station point is situated at a distance of 70 mm in front of the picture plane and 40 mm to the right of the axis of the pyramid and 60 mm above the ground.

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Reg. No. :

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Question Paper Code : 71940

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

First Semester

Mechanical Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to Mechanical Engineering (Sandwich), Aeronautical Engineering, Agriculture Engineering, Automobile Engineering, Biomedical Engineering, Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, Environmental Engineering, Geoinformatics Engineering, Industrial Engineering, Industrial Engineering and Management, Instrumentation and Control Engineering, Manufacturing Engineering, Marine Engineering, Materials Science and Engineering, Mechanical and Automation Engineering, Mechatronics Engineering, Medical Electronics Engineering, Metallurgical Engineering, Petrochemical Engineering, Production Engineering, Robotics and Automation Engineering, Biotechnology, Chemical Engineering, Chemical and Electrochemical Engineering, Fashion Technology, Food Technology, Handloom and Textile Technology, Industrial Bio Technology, Information Technology, Leather Technology, Petrochemical Technology, Petroleum Engineering, Pharmaceutical Technology, Plastic Technology, Polymer Technology, Rubber and Plastics Technology, Textile Chemistry, Textile Technology, Textile Technology (Fashion Technology), Textile Technology (Textile Chemistry))

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

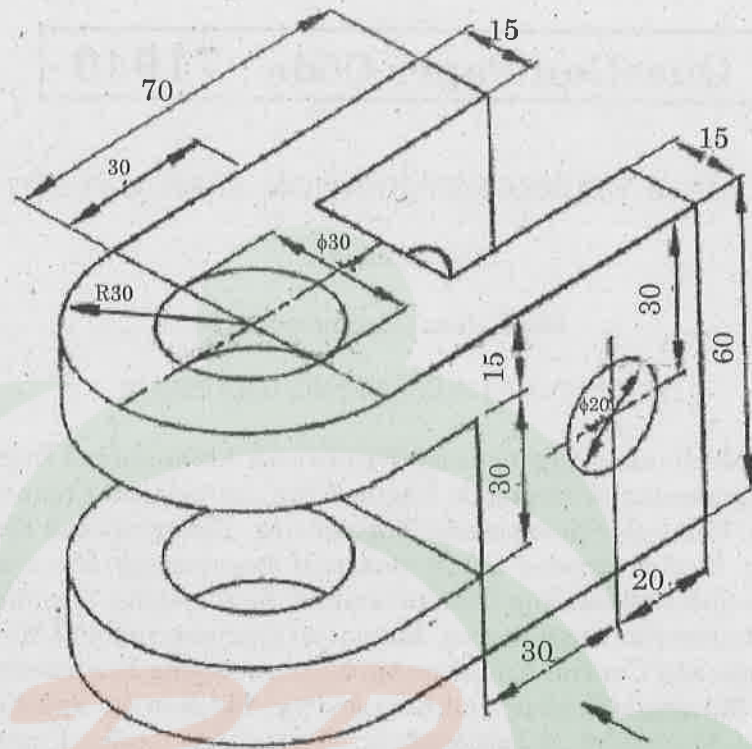
Answer ALL questions.

(5 × 20 = 100)

1. (a) (i) The distance between two stations is 100 km and on a road map it is shown by 30 cm. Draw a diagonal scale and indicate 46.8 km on it. (10)
- (ii) Construct a hyperbola with the distance between the focus and directrix as 50 mm and eccentricity as $3/2$. Also draw the tangent and normal to the curve at a point, 25 mm from the axis. (10)

Or

- (b) Draw the front view, top view and left side view of the object shown in figure. (20)



All Dimensions are in mm

2. (a) The top view of a 80 mm long line AB measures 65 mm, while the length of its front view is 55 mm. Its one end A in the H.P. and 12 mm in front of the V.P. Draw the projections of AB and determine its inclinations with the H.P. and V.P. (20)

Or

- (b) A pentagonal lamina of 30 mm side rests on the H.P. on one of its corners with its surface inclined at 30° to the H.P. Draw its projections when the side opposite to the resting corner is 45° inclined to V.P. (20)

3. (a) A hexagonal pyramid with 30 mm base side and 70 mm long axis is lying on a slant edge on the ground such that the axis is parallel to the V.P. Draw its projections. (20)

Or

- (b) A hexagonal prism of 30 mm base side and axis 65 mm long, has an edge of its base in the V.P. such that the axis is inclined at 30° to the V.P. and parallel to the H.P. Draw its projections. (20)

4. (a) A square pyramid of 40 mm base side and 65 mm long axis has its base on the H.P. and all the edges of base are equally inclined to the V.P. It is cut by a section plane perpendicular to the V.P. and inclined at 45° to the H.P. and bisecting the axis. Draw the sectional top view and true shape of the section. (20)

Or

- (b) A cone with a 50 mm base diameter and 60 mm long axis, rests with its base on the H.P. Draw the development of its lateral surface when it is cut by an auxiliary inclined plane which bisecting the axis and inclined 60° to the H.P. (20)

5. (a) A sphere of radius 50 mm is kept centrally over a frustum of square pyramid of side 120 mm at the bottom and 80 mm at the top and height 100 mm. Draw the isometric view of the assembly. (20)

Or

- (b) A square prism of base side 40 mm and height 70 mm rests with its base on the ground such that one of its rectangular faces is parallel and 10 mm behind picture plane. The station point is 30 mm in front of picture plane, 80 mm above the ground plane and lies in a central plane 40 mm to the right of the corner of the prism. Draw the perspective projection of the prism. (20)

Reg. No. :

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Question Paper Code : 80504

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

First Semester

Civil Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to all branches)

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

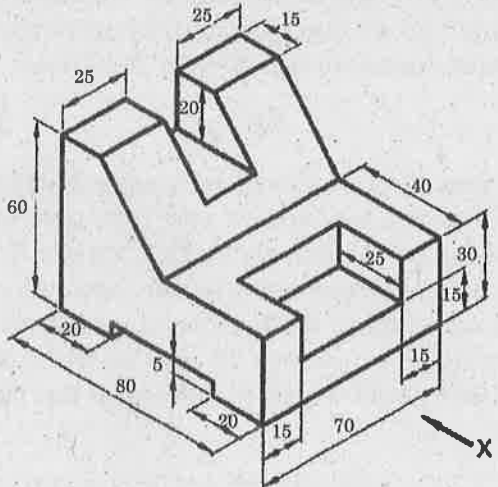
Answer ALL questions.

(5 × 20 = 100)

1. (a) An inelastic string of 150 mm long has its one end attached to the circumference of a circular disc of 40 mm diameter. Draw the curve traced out by the other end of the string when it is completely wound around the disc keeping the string always tight. Name the curve obtained. Draw the tangent and normal to the curve at a point distant 100 mm from the centre of the disc.

Or

- (b) Draw the elevation, plan and left side view of the solid shown below.



(All dimensions are in mm)

2. (a) A room is 4.8 m × 4.2 m × 3.6 m high. Determine graphically, the distance between a top corner and the bottom corner diagonally opposite to it.

Or

- (b) An equilateral triangle ABC of side 70 mm is so placed that the side AB is parallel to HP and inclined at 40° to VP . The difference in height between C and A is 30 mm. Draw the projections of the triangle.
3. (a) A square prism of 40 mm and base side 60 mm long axis is kept on the VP on a corner of its base such that the longer edge containing that corner (on the HP) makes an angle of 30° to the VP . Draw the projection.

Or

- (b) A cylindrical disc of 60 mm diameter and 20 mm thickness has a central coaxial square hole with 40 mm long diagonals. Draw the projections of the disc when the flat faces of the disc are vertical and inclined at 45° to the VP and the faces of the hole are equally inclined to the HP .
4. (a) Draw the development of lateral surface of a hexagonal pyramid with a 40 mm base side and a 60 mm long axis, which is resting on its base in the HP . such that an edge of the base is perpendicular to $V.P$, when an auxiliary inclined plane whose $V.T.$ makes an angle 60° with $H.P.$, bisects the axis.

Or

- (b) A cone, having a 60 mm base diameter and a 70 mm long axis, is resting on its base on the ground. It is cut by a plane such that the true shape of the section is a rectangular hyperbola with a 40 mm base and seen in the front view. Draw the sectional front view and find the distance of the section plane from the axis of the cone.
5. (a) A square pyramid rests centrally over a cylindrical block. Draw the isometric projection of the arrangement. Consider the pyramid has a base with 25 mm side and 40 mm long axis whereas the cylindrical block has a base with 50 mm diameter and 20 mm thickness.

Or

- (b) A cube of 25 mm side is placed vertically with one of its edges on the picture plane and the top square end face touching an auxiliary ground plane at a height of 45 mm above the horizon plane. The vertical edge formed by the two adjacent rectangular faces which are inclined at 45° to the picture plane, touches the picture plane. Draw the perspective view of the cube if the station point is 70 mm in front of the picture plane and lies in the central plane which is 30 mm to the right side of the centre of the cube.

Reg. No. :

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Question Paper Code : 77158

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

First Semester

Mechanical Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to all Branches)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw the involute of a circle of diameter 40 mm. Also draw a tangent and normal to the curve at any point on the curve.

Or

- (b) Sketch free-hand the top, front and right side views of the object shown in Fig. 1(b)

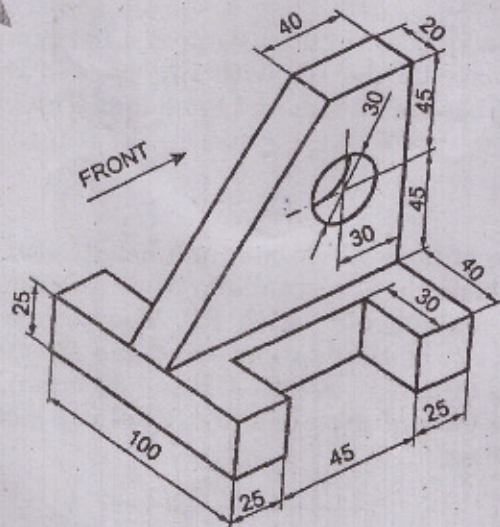


Fig.1 (b)



2. (a) A line NS, 80 mm long has its end N, 10 mm above the HP and 15 mm in front of the VP. The other end S is 65 mm above the HP and 50 mm in front of the VP. Draw the projections of the line and find its true inclinations with the HP and VP.

Or

- (b) A rectangular plate measuring 55×30 mm is resting on its shorter side on the HP inclined at 30° to the VP. Its surface is inclined at 60° to the HP. Draw its projections.
3. (a) A square prism of base side 35 mm and axis length 60 mm lies on the HP on one of its longer edges with its faces equally inclined to the HP. Draw its projections when its axis is inclined at 30° to the VP. Use change of position method.

Or

- (b) Draw the projections of a hexagonal prism of base side 20 mm and axis length 50 mm when it rests on the ground on one of its base edges and the axis inclined at 35° to the ground and parallel to the VP. Use change of reference line method.
4. (a) A square pyramid of base side 25 mm and altitude 40 mm rests on the HP on its base with the base edges equally inclined to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP meeting the axis at 21 mm above the HP. Draw the sectional top view and the true shape of the section.

Or

- (b) A cylinder of diameter 40 mm and height 50 mm is resting vertically on one of its end on the HP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The plane meets the axis at a point 30 mm from the base. Draw the development of the lateral surface of the lower portion of the truncated cylinder.
5. (a) Draw the isometric view of a frustum of a hexagonal pyramid when it is resting on its base on the HP with two sides of the base parallel to the VP. The side of base is 20 mm and top 8 mm. The height of the frustum is 55 mm.

Or

- (b) A square prism of base 25×25 mm and height 40 mm rests on the GP on one of its ends with a rectangular face receding away from the PP towards right making 60° with PP. The corner nearest to the PP is 40 mm to the left of the station point and 20 mm behind the PP. The Station point is 60 mm above the GP and 50 mm in front of the PP. Draw the perspective view of the prism by visual ray method. Use the top view and the front view.





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Question Paper Code : 57410

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

First Semester

Civil Engineering

GE 6152 – ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

(5 × 20 = 100 Marks)

1. (a) Draw an ellipse when the eccentricity is $\frac{2}{3}$ and the distance of the focus from the directrix is equal to 50 mm. Also draw a normal and tangent to a point on the ellipse which is at a distance of 70 mm from the directrix.

OR

- (b) Draw the following views of the component shown in Fig. 1 by free hand sketching :
- Front view
 - Top view and
 - Right side view

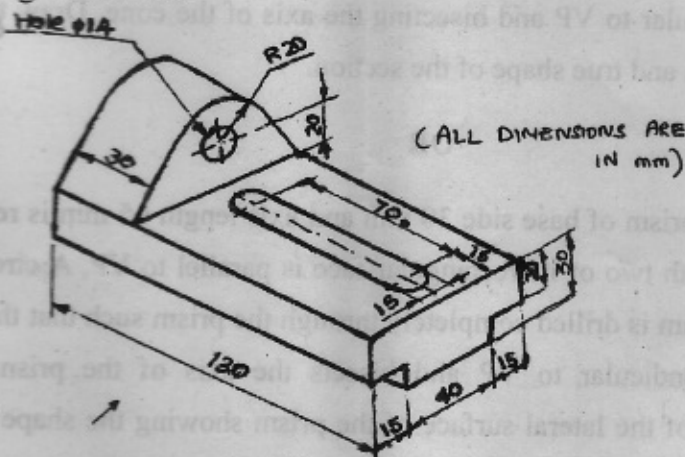
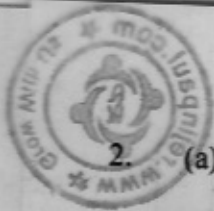


Fig. 1



2.

- (a) The end P of a line PQ, 70 mm long is 15 mm above the HP and 20 mm in front of the VP. Q is 40 mm above the HP. The top view of the line is inclined at 45° to the VP. Draw the projections of the line and find its true inclination with the VP and the HP.

OR

- (b) A Rectangular plate measuring 70×40 mm has one of its shorter edges in the VP inclined at 40° to the HP. Draw its top view if its front view is a square of side 40 mm. Draw its projections and also find the true inclination of the plate with the VP.
3. (a) A pentagonal pyramid of base side 30 mm and axis length 60 mm is resting on HP on one of its base corner such that the slant edge containing the resting corner is perpendicular to HP and parallel to VP. Draw its projections.

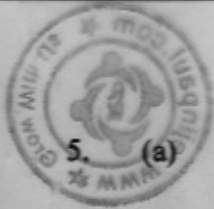
OR

- (b) Draw the projections of a cylinder of diameter 50 mm and axis length 70 mm when it is lying on the ground with its axis inclined at 45° to the VP and parallel to the ground.
4. (a) A cone of base diameter 40 mm and axis length 50 mm is resting on HP on its base with its axis perpendicular to HP. It is cut by a plane inclined at 45° to HP and perpendicular to VP and bisecting the axis of the cone. Draw the sectional plan, elevation and true shape of the section.

OR

- (b) A hexagonal prism of base side 30 mm and axis length 65 mm is resting on HP on its base with two of its rectangular face is parallel to VP. A circular hole of diameter 40 mm is drilled completely through the prism such that the axis of the hole is perpendicular to VP and bisects the axis of the prism. Draw the development of the lateral surface of the prism showing the shape of the holes formed on it.





5. (a)

A cylinder of 50 mm diameter and 60 mm height stands on HP. A section plane perpendicular to VP inclined at 55° to HP cuts the cylinder and passing through a point on the axis at a height of 45 mm above the base. Draw the isometric projection of the truncated portion of the cylinder such that the cut surface is clearly visible to the observer.

OR

- (b) A square pyramid, side of base 40 mm and height 60 mm rests with its base on the ground such that one of its base side is parallel to and 15 mm behind the picture plane. The station point is 90 mm in front of PP, 80 mm above the ground plane and lies in a central plane 40 mm to the right of the centre of the pyramid. Draw the perspective projection of the square pyramid.





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Question Paper Code : 57410

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

First Semester

Civil Engineering

GE 6152 – ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

(5 × 20 = 100 Marks)

1. (a) Draw an ellipse when the eccentricity is $\frac{2}{3}$ and the distance of the focus from the directrix is equal to 50 mm. Also draw a normal and tangent to a point on the ellipse which is at a distance of 70 mm from the directrix.

OR

- (b) Draw the following views of the component shown in Fig. 1 by free hand sketching :

- (i) Front view
(ii) Top view and
(iii) Right side view

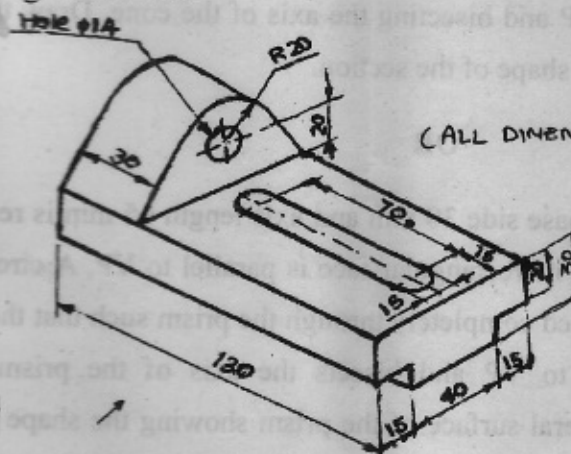
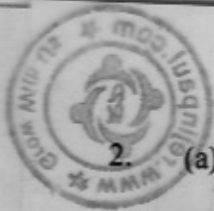


Fig. 1



2.

- (a) The end P of a line PQ, 70 mm long is 15 mm above the HP and 20 mm in front of the VP. Q is 40 mm above the HP. The top view of the line is inclined at 45° to the VP. Draw the projections of the line and find its true inclination with the VP and the HP.

OR

- (b) A Rectangular plate measuring 70×40 mm has one of its shorter edges in the VP inclined at 40° to the HP. Draw its top view if its front view is a square of side 40 mm. Draw its projections and also find the true inclination of the plate with the VP.
3. (a) A pentagonal pyramid of base side 30 mm and axis length 60 mm is resting on HP on one of its base corner such that the slant edge containing the resting corner is perpendicular to HP and parallel to VP. Draw its projections.

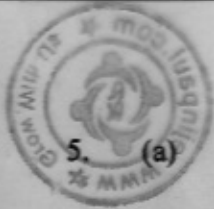
OR

- (b) Draw the projections of a cylinder of diameter 50 mm and axis length 70 mm when it is lying on the ground with its axis inclined at 45° to the VP and parallel to the ground.
4. (a) A cone of base diameter 40 mm and axis length 50 mm is resting on HP on its base with its axis perpendicular to HP. It is cut by a plane inclined at 45° to HP and perpendicular to VP and bisecting the axis of the cone. Draw the sectional plan, elevation and true shape of the section.

OR

- (b) A hexagonal prism of base side 30 mm and axis length 65 mm is resting on HP on its base with two of its rectangular face is parallel to VP. A circular hole of diameter 40 mm is drilled completely through the prism such that the axis of the hole is perpendicular to VP and bisects the axis of the prism. Draw the development of the lateral surface of the prism showing the shape of the holes formed on it.





5. (a)

A cylinder of 50 mm diameter and 60 mm height stands on HP. A section plane perpendicular to VP inclined at 55° to HP cuts the cylinder and passing through a point on the axis at a height of 45 mm above the base. Draw the isometric projection of the truncated portion of the cylinder such that the cut surface is clearly visible to the observer.

OR

- (b) A square pyramid, side of base 40 mm and height 60 mm rests with its base on the ground such that one of its base side is parallel to and 15 mm behind the picture plane. The station point is 90 mm in front of PP, 80 mm above the ground plane and lies in a central plane 40 mm to the right of the centre of the pyramid. Draw the perspective projection of the square pyramid.



Reg. No.

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Question Paper Code : 27270

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2015

First Semester

Mechanical Engineering

GE 6152 : ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations : 2013)

Time : Three Hours

Maximum : 100 Marks

Note : Blank Answer Booklet consisting of A3 drawing sheets is to be supplied to the students.

Answer ALL questions. (5 × 20 = 100 Marks)

- (a) Draw a hyperbola given the distance of the focus from the directrix as 55 mm and eccentricity as 1.5. Also draw a tangent and normal at any point P on the hyperbola.

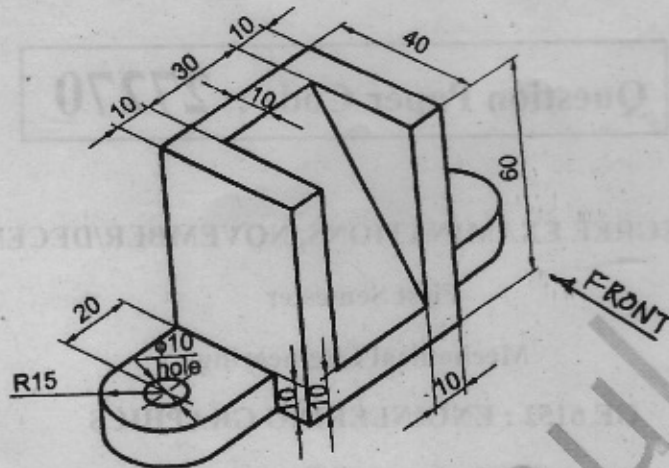
OR



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- (b) Sketch freehand the top, front and right side views of the object shown in Figure.



NOTE : ALL DIMENSIONS ARE IN 'mm'

2. (a) A line NS, 80 mm long has its end N, 10 mm above the HP and 15 mm in front of the VP. The other end S is 65 mm above the HP and 50 mm in front of the VP. Draw the projections of the line and find its true inclinations with the HP and VP.

OR

- (b) A rectangular plate measuring 55×30 mm is resting on its shorter side on the HP inclined at 30° to the VP. Its surface is inclined at 60° to the HP. Draw its projections.

3. (a) A hexagonal prism of base side 30 mm and axis length 60 mm rests on the HP on one of its base edges with its axis inclined at 60° to the HP and parallel to the VP. Draw its top and front views.

OR

- (b) Draw the projections of a cube of side 40 mm when it rests on one of its corners with a diagonal of the solid vertical.



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4. (a) A square pyramid of base side 25 mm and altitude 40 mm rests on the HP on its base with the base edges equally inclined to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP meeting the axis at 21 mm above the HP. Draw the sectional top view and the true shape of the section.

OR

- (b) A pentagonal pyramid of base side 25 mm and altitude 50 mm rests on its base on the HP with one of the sides of the base parallel to the VP. It is cut by a plane bisecting the axis. The cutting plane is inclined at 30° to the base and perpendicular to the VP. Draw the development of the lateral surfaces of the lower part of the cut pyramid.

5. (a) A cylinder of base diameter 30 mm and axis 50 mm is placed on its base centrally on the top of a square slab of side 50 mm and thickness 20 mm. Draw the isometric projection of the combination of solids to full scale.

OR

- (b) A regular hexagonal pyramid of base edge 20 mm and height 35 mm rests on its base on the ground plane with one of its base edges touching the picture plane. The station point is 30 mm above the ground plane and 40 mm in front of the PP. The central plane is 30 mm to the right of the axis. Draw the perspective projection of the pyramid by visual ray method. Use the top view and the front view.



Reg. No.

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Question Paper Code : 27271

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2015

First Semester

Civil Engineering

GE 6152 : ENGINEERING GRAPHICS

(Common to all branches)

(Regulations : 2013)

Time : 3 Hours]

[Max. Marks : 100

Note : Blank answer Booklet consisting of A3 drawing sheets is to be supplied to the students.

Answer ALL questions.

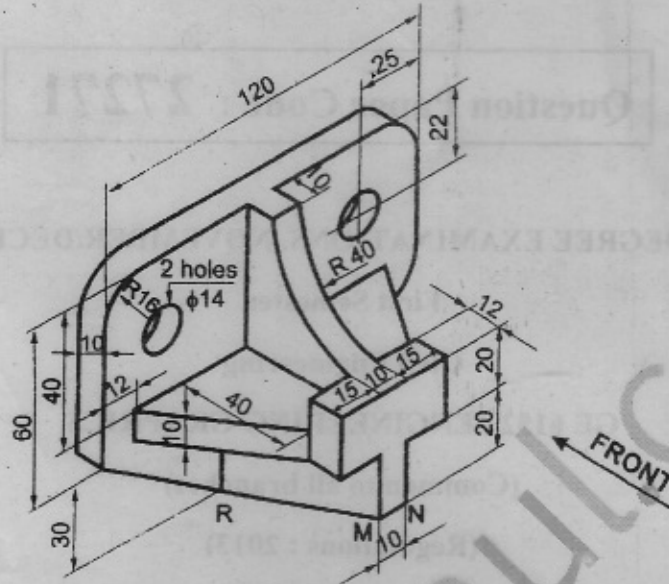
(5 × 20 = 100 Marks)

1. (a) (i) Draw the involute of a circle of diameter 40 mm. (10)
- (ii) Draw a hyperbola given the distance of the focus from the directrix as 55 mm and eccentricity as 1.5. (10)

OR



- (b) Draw the three views of the object shown in fig. choosing the most important side as the front.



2. (a) The distance between the projectors through the VT and the HT of a line PQ is 70 mm and that between the projectors through the ends is 40 mm. The VT is 45 mm above the HP and the HT is 30 mm in front of the VP. P is 15 mm above the HP. Draw the front and top views of the line. Also find the true length and the true inclinations of the line with the HP and the VP.

OR

- (b) A hexagonal lamina of side 30 mm is resting on the HP such that one of its corners touches the HP and the VP. Draw the projections when its surface makes 30° with the HP and 60° with the VP.
3. (a) A cone of base diameter 40 mm and height 56 mm is freely suspended from one of its base points such that its axis is parallel to the VP. Draw its projections.

OR

- (b) Draw the projections of a hexagonal prism of base side 20 mm and axis length 50 mm when it rests on the ground on one of its base edges and the axis inclined at 35° to the ground and parallel to the VP.



4. (a) A right circular cone of base diameter 50 mm and axis length 60 mm rests on its base on the HP. It is cut by a plane perpendicular to the HP and inclined at 60° to the VP. The shortest distance between the cutting plane and the top view of the axis is 8 mm. Draw the top view, sectional front view and the true shape of the section.

OR

- (b) A pentagonal prism of base side 25 mm and height 60 mm stands on one of its ends on the HP with a rectangular face parallel to the VP. A hole of diameter 30 mm is drilled centrally through the prism in such a way that the axis of the hole bisects the axis of the prism at right angles. The axis of the hole is perpendicular to the VP. Draw the development of the lateral surfaces of the prism.
5. (a) A pentagonal pyramid of base edge 20 mm and height 60 mm rests on its base on the HP with a base edge parallel to the VP and further away from the VP. A section plane perpendicular to the VP and inclined at 45° to the HP cuts the axis of the pyramid at a point 33 mm from the vertex. Draw the isometric view of the truncated pyramid such that the cut surface is visible.

OR

- (b) A square prism of base 25×25 mm and height 40 mm rests on the GP on one of its ends with a rectangular face receding away from the PP towards right making 60° with PP. The corner nearest to the PP is 40 mm to the left of the station point and 20 mm behind the PP. The station point is 60 mm above the GP and 50 mm in front of the PP. Draw the perspective view of the prism by Visual ray method. Use the top views and front views.



Reg. No. :

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Question Paper Code : 97080

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014

First Semester

Mechanical Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to all branches)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

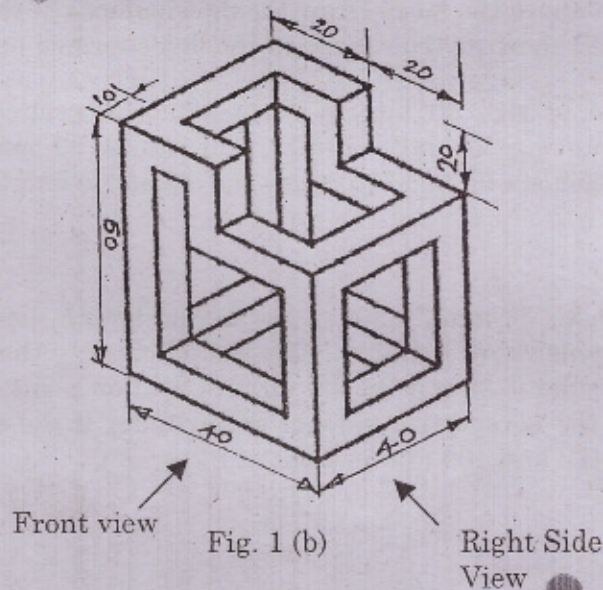
Answer ALL questions.

(5 × 20 = 100)

1. (a) A water tank of size 27 m³ was represented in the drawing by 216 cm³ size. Construct a vernier scale for the same to measure up to 5 m. Show on it, the following lengths (i) 3.95 m (ii) 0.27 m (iii) 0.042 m.

Or

- (b) Draw the front, top and side views of the component shown in fig 1(b), by free hand.



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2. (a) One end P of line PQ, 80mm long is 10mm above HP and 15 mm in front of VP. The line is inclined at 40° to HP and the top view of the line is making 50° with VP. Draw the projections of the line and find its true inclination with the VP.

Or,

- (b) A rectangular lamina of size 60 mm \times 30 mm is seen as square in the top view, when it rests on one of its edges on HP and perpendicular to VP. Draw the projections of the lamina and find the true inclination of its surface with HP. Draw the front view of the lamina, when the edge about which it is tilted, is inclined at 45° to VP.
3. (a) A hexagonal pyramid of base side 35 mm and axis height 80 mm is freely suspended from one of its corners, such that the axis is parallel to VP. Draw the projections of the solid.

Or

- (b) An octahedron of side 40 mm is resting on the ground with one of its triangular faces on the ground with an edge perpendicular to VP. Draw the projections.
4. (a) Draw the projection and apparent section of a tetrahedron of side 40mm, which is cut by a plane perpendicular to VP and inclined to HP such that the true shape of the section is a square.

Or

- (b) A pentagonal pyramid side of base 30 mm and height 80 mm stands on its base on HP with one of base edges parallel to VP. A through circular hole of 30 mm diameter is drilled through the pyramid such that the axis of the hole is perpendicular to VP and intersects the axis of the pyramid 20 mm above the base. Draw the development of the lateral surface of the pyramid showing true shape of the holes formed on it.
5. (a) A cube of size 40 mm is resting on the ground on one of its faces, surmounting centrally a sphere of radius 30 mm. Draw the isometric projection set up and also show the isometric length scale.

Or

- (b) A cylinder 30 mm diameter and 50mm length, lies on the ground on one of its generators with its axis perpendicular to the PP. The nearest point of the solid is 20 mm on the right of Station point and 20 mm behind PP. Draw the perspective view of the cylinder if the station point is 50 mm above GP and 100 mm in front of PP.



2. (a) The front view of the line AB of length 70 mm is inclined at 30° to xy line and measures 45 mm. The end A is 20 mm above HP and 25 mm in front of VP. Draw the projections of the line and find the inclinations with HP and VP. (20)

Or

- (b) A regular circular lamina of 60mm diameter rests on HP such that the surface of the lamina is inclined at 30° HP. Obtain its projection when the top view of the diameter passing thro' the point on HP makes 45° to VP. (20)
3. (a) A rectangular prism 50×25 mm base and length 70 mm, rests with one of its longer edges of the base on HP and the axis is inclined at 30° to HP and parallel to VP. Draw its projections. (20)

Or

- (b) A hexagonal prism of 30 mm base edges and axis 70 mm long, rests on one of its corners of base on HP. Draw its projections, when the lateral edge through that corner on HP, is inclined at 30° to HP and the vertical plane containing that lateral edge and the axis, is parallel to VP. (20)
4. (a) A right regular hexagonal pyramid side of base 30 mm and height 80 mm is resting on its base on the HP with two of its adjacent lateral faces equally inclined to VP. It is cut by a horizontal section plane and an inclined section plane thereafter. The two section planes meet at the midpoint of the axis in the front view. The inclined section plane makes 70° with the HP & perpendicular to the VP. Draw the projections indicating the cut surfaces. Also represent the true shape of the cut portion corresponding to the inclined section plane. (20)

Or

- (b) A lamp shade is formed by cutting a cone of base 144 mm diameter and 174 mm height by a horizontal plane at a distance of 72 mm from the apex and by an another plane inclined at 30° to HP & passing through one extremity of the base. Draw the development of the lamp shade. (20)
5. (a) A frustum of the conical solid of base diameter 50 mm and top diameter 26 mm and 50 mm height is placed centrally over a cylindrical block of 76 mm base diameter and axis 25 mm long. The axes of the two solids are collinear. Draw the isometric view of the combined solid. (20)

Or



- (b) A cylinder of 60 mm diameter and axis 70 mm long lies on the ground on its generator such that the axis inclined at 30° to the picture plane. Draw its perspective view when one of the end points touches the picture plane. The station point lies in the central plane which is bisecting the axis and is 160 mm in front of the picture plane. The horizon level is at 70 mm height.

(20)



Reg. No. :

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Question Paper Code : 50650

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

**First Semester
Mechanical Engineering
GE 6152 – ENGINEERING GRAPHICS
(Regulations 2013)**

(Common to Mechanical Engineering (Sandwich), Aeronautical Engineering, Agriculture Engineering, Automobile Engineering, Biomedical Engineering, Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, Environmental Engineering, Geoinformatics Engineering, Industrial Engineering, Industrial Engineering and Management, Instrumentation and Control Engineering, Manufacturing Engineering, Marine Engineering, Materials Science and Engineering, Mechanical and Automation Engineering, Mechatronics Engineering, Medical Electronics Engineering, Metallurgical Engineering, Petrochemical Engineering, Production Engineering, Robotics and Automation Engineering, Biotechnology, Chemical Engineering, Chemical and Electrochemical Engineering, Fashion Technology, Food Technology, Handloom and Textile Technology, Industrial Bio Technology, Information Technology, Leather Technology, Petrochemical Technology, Petroleum Engineering, Pharmaceutical Technology, Plastic Technology, Polymer Technology, Rubber and Plastics Technology, Textile Chemistry, Textile Technology, Textile Technology (Fashion Technology), Textile Technology (Textile Chemistry))

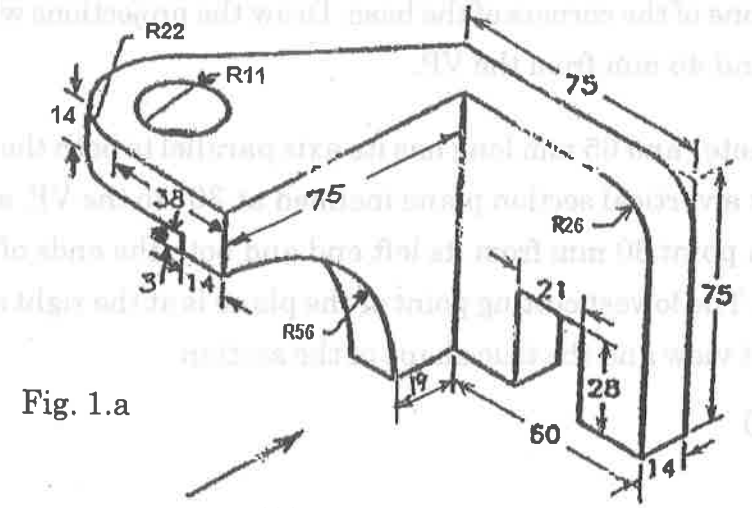
Time : Three Hours

Maximum : 100 Marks

Drawings should be neat and legible.
Standards should be followed for dimensioning and printing.
Missing dimensions may be suitably assumed.
Answer ALL questions

(5×20=100 Marks)

1. a) Draw the following views of the component shown in Fig. 1.a) by free hand sketching
- i) Front view
 - ii) Top view and
 - iii) Right side view



(OR)

- b) An inelastic string of 150 mm length has its one end attached to the bottom most point of the circumference of a circular disc of 40 mm diameter. Draw the curve traced by the other end of the string when it is completely wound around the disc keeping the string always tight. Name the curve obtained. Draw the tangent and normal to the curve at a point 100 mm from the centre of the disc.
2. a) The distance between the end projectors of a line PQ is 70 mm and the projectors through the traces are 110 mm apart. The end P of the line is 10 mm above the HP. If the top view and the front view of the line make 30° and 60° respectively with the reference line, draw the projections of the line. Determine the true length of the line and the angle of inclination with HP and VP. Locate the traces too.
- (OR)
- b) A regular pentagon with 25 mm side is resting on one of its sides on the HP with that side parallel to and 25 mm in front of the VP. It is tilted about that side such that its highest corner rests on the VP. Draw the projections of the pentagon.
3. a) A cone of 30 mm diameter and height 70 mm rests on the ground on one of its base circle points such that the apex is 20 mm from the VP. The nearest point of the base is 50 mm from the VP and the base is perpendicular to the HP. Draw the projections.
- (OR)
- b) A hexagonal pyramid having a base of 30 mm side and axis 80 mm long is freely suspended from one of the corners of the base. Draw the projections when the axis is parallel to and 45 mm from the VP.
4. a) A cylinder 55 mm diameter and 65 mm long has its axis parallel to both the HP and the VP. It is cut by a vertical section plane inclined at 30° to the VP, such that the axis is cut at a point 30 mm from its left end and both the ends of the cylinder are partly cut. The lowest cutting point of the plane is at the right end. Draw its sectional front view and the true shape of the section.

(OR)

- b) A cylindrical drum of 60 mm diameter and height 100 mm is resting on its base on the HP. A square hole with 50 mm side is cut through the drum such that one of the faces of the square hole makes 30° with the HP. The axis of the square hole is perpendicular to the VP and is 12 mm away from the axis of the cylinder towards the right. Draw the development of the retained cylinder.
5. a) A square pyramid having base of side 40 mm side and height 60 mm rests on the GP with an edge of the base parallel to and 15 mm behind the picture plane. The station point is 90 mm above the GP and 75 mm in front of the picture plane and lies in a central plane which is 40 mm towards the right of the axis of the pyramid. Draw its perspective view.
- (OR)
- b) A pentagonal pyramid of base edge 30 mm and height 65 mm rests on the HP on its base such that an edge of the base is parallel to VP and nearer to it. It is cut by a plane perpendicular to VP and inclined at 30° to the HP. It intersects the axis of the pyramid at a height of 35 mm from the base. Draw the isometric view of the truncated pyramid.

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Reg. No. :

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Question Paper Code : 54018

B.E./B.Tech. DEGREE EXAMINATION, JANUARY 2018
First Semester
Civil Engineering
GE 8152 – ENGINEERING GRAPHICS
(Common to All Branches)
(Regulations 2017)

Time : Three Hours

www.recentquestionpaper.com

Maximum : 100 Marks

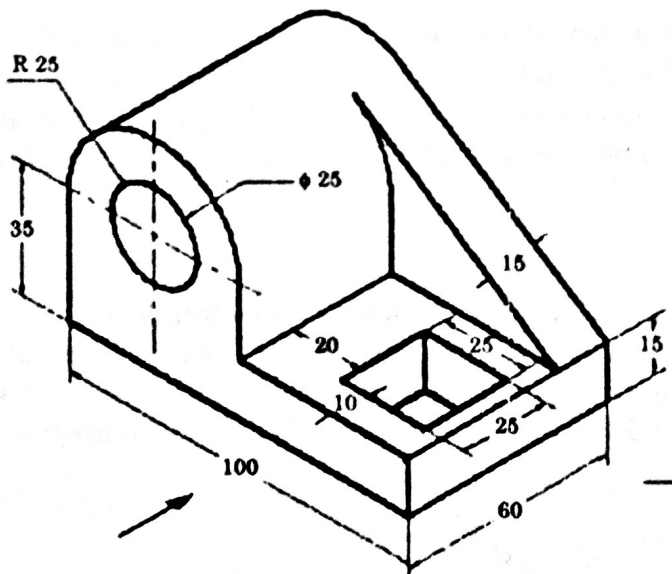
Answer ALL questions.

(5×20=100 Marks)

1. a) Construct a hyperbola when the distance between the focus and directrix is 40 mm, the eccentricity is $\frac{4}{3}$. Also draw tangent and normal to the curve from any point on it.

(OR)

- b) Draw the elevation, top and side view for the component given below.



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2. a) A hexagonal plate of side 20 mm rests on the HP on one of its sides inclined at 45° to VP. The surface of the plate makes an angle of 30° with the HP. Draw the front view and top view of the plate.

(OR)

- b) The point A of a line AB is in HP and 60 mm in front of VP. The point B is in VP and 40 mm above HP. The distance between projectors is 70 mm. Draw the projections of the line, find the true length, inclinations and locate its traces.

3. a) A cone of base diameter 50 mm and axis 60 mm has one of its generators in the VP. Draw its projections when the apex is 35 mm above the HP.

(OR)

- b) A cylinder of diameter 30 mm and axis length 50 mm is resting on the HP on a point so that its axis is inclined at 45° to the HP and parallel to VP. Draw its top and front views.

4. a) A pentagonal pyramid side of base 30 mm and axis 90 mm long is resting on its base with one of its base edges parallel, nearer and 15 mm away from the VP. It is cut by a plane perpendicular to HP, inclined at 40 degrees to VP and 10 mm away from the axis. Draw the views and also obtain the true shape of the section.

(OR)

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- b) A conical shape vertical chimney of 60 m base diameter joins a roof sloping at an angle of 35° with the horizontal. The shortest portion over the roof is 25 m. Determine the shape of the sheet metal from which the chimney can be fabricated. Take appropriate scale.

5. a) Draw the perspective view of a square prism of base side 20 mm and height 35 mm resting on an end on the ground with a rectangular face parallel to the picture plane. The axis of the prism is 25 mm behind the picture plane and 25 mm to the right of the eye. The eye is 50 mm in front of the PP and 50 mm above the ground.

(OR)

- b) A pentagonal pyramid with edge of base 40 mm and axis 70 mm long, is resting on its base on H.P. One of the base edges of the pyramid is perpendicular to V.P. A section plane, perpendicular to V.P. and inclined to H.P. at 30° , passes through the axis, at a height of 30 mm from the base. Draw the isometric view of the truncated pyramid.



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Question Paper Code : 54010

B.E./B.Tech. DEGREE EXAMINATION, JANUARY 2018

First Semester

Civil Engineering

GE 8152 – ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations 2017)

Time : Three Hours

auhippo.com

Maximum : 100 Marks

Answer ALL questions.

Answer any one question from each unit.

First angle projection to be followed.

(5×20=100 Marks)

1. a) A circle of diameter 50 mm rolls along the inside of another circle of diameter 200 mm without slipping. Draw the path traced by a point on the smaller circle. Draw a tangent and a normal at a point on the curve.

OR

- b) Make free-hand sketches of front, top and left side views of the object shown in figure 1.

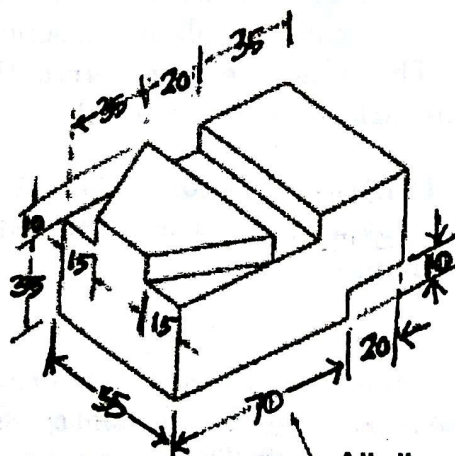


Figure -1

All dimensions are in mm



2. a) A straight line ST has its end S, 10 mm in front of the VP and nearer to it. The mid point m of the line is 50 mm in front of the VP and 40 mm above the HP. The front and top views measure 100 mm and 120 mm respectively. Draw the projections of the line. Also find its true length and true inclinations with the reference planes.

OR

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- b) A hexagonal plate of side 20 mm rests on the HP on one of its sides inclined at 45° to the VP. The surface of the plate makes an angle of 30° with the HP. Draw the front and top views of the plate.
3. a) A hexagonal prism of base side 30 mm and axis length 60 mm rests on the HP on one of its base edges with its axis inclined at 60° to the HP and parallel to the VP. Draw its front and top views.

OR

- b) A pentagonal pyramid of base edge 25 mm and axis length 60 mm rest on one base side on HP such that the highest base corner is 20 mm above HP. Its axis is parallel to the VP. Draw its top and front views.
4. a) A right circular cone of base diameter 50 mm and axis length 60 mm rests on its base on the HP. It is cut by a plane perpendicular to the HP and inclined at 60° to the VP. The shortest distance between the cutting plane and the top view of the axis is 8 mm. Draw the top view, sectional front view and the true shape of the section.

OR

- b) A hexagonal pyramid of base of side 25 mm and altitude 50 mm is resting vertically on its base on the ground with two of the sides of the base perpendicular to the VP. It is cut by a plane perpendicular to the VP and inclined at 40° to the HP. The plane bisects the axis of the pyramid. Draw the development of the lateral surfaces of the pyramid.
5. a) Draw the isometric view of a frustum of a cone of height 30 mm, base diameter 34 mm, top diameter 20 mm when it is centrally placed over a square slab of side 50 mm and thickness 10 mm.

OR

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- b) A rectangular Prism $40 \times 30 \times 15$ mm rest on the ground on one of its ends with one of the longest edges touching the PP and the shortest edges receding to the left at an angle of 40° to the PP. The nearest vertical edge is 15 mm to the left of the station point which is at a distance of 55 mm in front of the PP and 30 mm above the ground. Draw the perspective view of the prism.