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

Question Paper Code : 70117

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Second Semester

Civil Engineering

GE 3251 — ENGINEERING GRAPHICS

(Common to : All Branches)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Construct a parabola when the distance between the focus and directrix is 30 mm. Also draw the tangent and normal to any point on the curve.

Or

(b) Develop the involute of a square of side 25 mm. Also draw the tangent and normal at any point on the curve.

2. (a) A point P is on HP and 30 mm in front of VP. Another point Q is on VP and 40 mm above HP. The distance between their projectors parallel to XY line is 50 mm. Find the distance between their front and top views of the points P and Q.

Or

(b) A pentagonal lamina of side 30 mm rests on the ground with one of its sides inclined at 30° to VP while the surface of the lamina is inclined at 45° to HP. Draw the projections of the lamina.

3. (a) A square pyramid of base side 30 mm, axis height 60 mm is resting on HP on one of its base corners with its axis inclined at 50° to HP and parallel to VP. Draw its projections when the base sides containing the resting corners are equally inclined to HP.

Or

(b) A hexagonal pyramid of base side 35 mm and axis height 65 mm is resting on HP on one of its triangular faces with its axis parallel to VP. Draw its projections.

4. (a) A cylinder of base diameter 50 mm and height 65 mm rests on its base on HP. It is cut by a plane perpendicular to VP and inclined at 30° to HP and meets the axis at a distance 30 mm from the base. Draw the front view, sectional top view and true shape of the section.

Or

(b) A hexagonal pyramid 25 mm side of base and axis 65 mm long is resting on its base on HP with one of the edges of the base parallel to VP. It is cut by a vertical section plane at a distance of 8 mm from the axis towards right side. Develop the lateral surface of the left part of pyramid.

5. (a) A square pyramid of base side 40 mm and height 70 mm rests centrally over a cube of edge 50 mm, which itself is placed on a cylinder of diameter 80 mm and thickness 30 mm. Draw the isometric projection of the combination of solids, if the axis of the three solids are in common line.

Or

(b) A frustum of a square pyramid of base edge 30 mm and top edge 20 mm. The height of the frustum is 35 mm. It rests or its base on the ground with the base edges equally inclined to picture plane. The axis of the frustum is 30 mm to the right of the station point. The station point is 55 mm in front of PP and 50 mm above GP. The nearest base corner is 10 mm behind picture plane. Draw the perspective projection of the frustum.

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

Question Paper Code : 70117

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Second Semester

Civil Engineering

GE 3251 — ENGINEERING GRAPHICS

(Common to : All Branches)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Construct a parabola when the distance between the focus and directrix is 30 mm. Also draw the tangent and normal to any point on the curve.

Or

(b) Develop the involute of a square of side 25 mm. Also draw the tangent and normal at any point on the curve.

2. (a) A point P is on HP and 30 mm in front of VP. Another point Q is on VP and 40 mm above HP. The distance between their projectors parallel to XY line is 50 mm. Find the distance between their front and top views of the points P and Q.

Or

(b) A pentagonal lamina of side 30 mm rests on the ground with one of its sides inclined at 30° to VP while the surface of the lamina is inclined at 45° to HP. Draw the projections of the lamina.

3. (a) A square pyramid of base side 30 mm, axis height 60 mm is resting on HP on one of its base corners with its axis inclined at 50° to HP and parallel to VP. Draw its projections when the base sides containing the resting corners are equally inclined to HP.

Or

(b) A hexagonal pyramid of base side 35 mm and axis height 65 mm is resting on HP on one of its triangular faces with its axis parallel to VP. Draw its projections.

4. (a) A cylinder of base diameter 50 mm and height 65 mm rests on its base on HP. It is cut by a plane perpendicular to VP and inclined at 30° to HP and meets the axis at a distance 30 mm from the base. Draw the front view, sectional top view and true shape of the section.

Or

(b) A hexagonal pyramid 25 mm side of base and axis 65 mm long is resting on its base on HP with one of the edges of the base parallel to VP. It is cut by a vertical section plane at a distance of 8 mm from the axis towards right side. Develop the lateral surface of the left part of pyramid.

5. (a) A square pyramid of base side 40 mm and height 70 mm rests centrally over a cube of edge 50 mm, which itself is placed on a cylinder of diameter 80 mm and thickness 30 mm. Draw the isometric projection of the combination of solids, if the axis of the three solids are in common line.

Or

(b) A frustum of a square pyramid of base edge 30 mm and top edge 20 mm. The height of the frustum is 35 mm. It rests or its base on the ground with the base edges equally inclined to picture plane. The axis of the frustum is 30 mm to the right of the station point. The station point is 55 mm in front of PP and 50 mm above GP. The nearest base corner is 10 mm behind picture plane. Draw the perspective projection of the frustum.

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

Question Paper Code : 60036

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Second Semester

Civil Engineering

GE 3251 – ENGINEERING GRAPHICS

(Common to All Branches)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw an involute of a circle of 50 mm diameter. Also, draw a tangent and normal line at any point on the curve. (20)

Or

(b) Draw a hyperbola whose distance of focus from directrix is 60 mm. The eccentricity is 3/2. Also draw a tangent and normal at any point P on the curve. (20)

2. (a) A line AB measuring 75 mm long has one of its ends 50 mm in front of VP and 15 mm above HP. The top view of the line is 50 mm long. Draw and measure the front view. The other end is 15 mm in front of VP and is above HP. Determine the true inclinations and traces. (20)

Or

(b) Pentagonal lamina of edges 25 mm is resting on HP with one of its corners such that the plane surface makes an angle of 60° with HP. The two of the edges containing the corner on which the lamina rests make equal inclinations with HP. When the edge opposite to the corner makes an angle of 45° with VP and nearer to the observer. Draw the top and front views of the plane lamina in this position. (20)

3. (a) A hexagonal pyramid of base side 25 mm and axis height 55 mm is resting on HP with one of its base corners, such that the axis is inclined at 45° to HP and parallel to VP. Draw its projections. (20)

Or

(b) A square pyramid of base 30 mm and height 60 mm is suspended by means of a string from one of its base corners with its axis parallel to VP. Draw its projections. (20)

4. (a) A pentagonal prism of base side 30 mm and axis length 60 mm is resting on HP on its base with a side of base is parallel to VP. It is cut by a plane inclined at 35° to HP and meets the axis at a distance 35 mm from the base. Draw the development of the lower portion of the prism. (20)

Or

(b) A cylinder of base diameter 50 mm and axis length 60 mm is resting on HP on one of its generators with its axis perpendicular to VP. It is cut by a plane inclined to 35° to VP and perpendicular to HP and is bisecting the axis of the cylinder. Draw its top view, sectional front view and true shape of section. (20)

5. (a) Draw the isometric projection of a frustum of square pyramid of shorter base edge 30 mm and longer base edge 50 mm with the axial height of 60 mm, kept on H.P on its longer end and two of its base edges are parallel to V.P. (20)

Or

(b) A rectangular prism 25 mm* 30 mm side and 50 mm long is lying on the ground plane on one of its rectangular faces in such a way that one of its end face is parallel to and 10 mm behind the picture plane. The central plane is 60 mm away from the axis of the prism towards the left. Draw the perspective view of the prism if the station point is located 55 mm in front of the picture plane and 40 mm above ground plane. The prism is resting on the ground plane on its 50 mm* 25 mm rectangular face. (20)

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

Question Paper Code : 60061

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Second Semester

GE 3251 — ENGINEERING GRAPHICS

(Common to : All Branches (Except Marine Engineering))

(Regulations 2021)

Time : Three hours Maximum : 100 marks

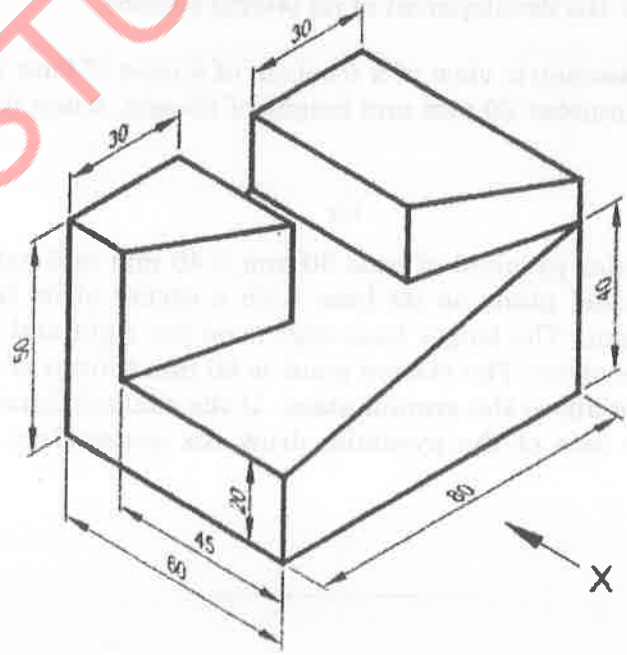
Answer ALL questions.

(5 × 20 = 100)

1. (a) 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. (20)

Or

(b) Draw the front, top and left side views for the figure shown. (20)



2. (a) The top view of a line PQ has a length of 100 mm and makes an angle of 35° with the horizontal The end Q is in the HP and end P is in the VP and 50 mm above the HP. Draw the projections of the line and finds its true length and true inclinations with the reference planes. Also locate the traces. (20)

Or

(b) A semi-circular plate of 50 mm diameter rests on its diameter on the HP inclined at 45° to the VP. Draw the projections of the plane when its surface is inclined at 30° to the HP. (20)

3. (a) Draw the projections of a cube of edge 40 mm resting on one of its corners on the H.P with a solid diagonal perpendicular to the V.P. (20)

Or

(b) A pentagonal pyramid of base side 30 mm and axis 60 mm rests on an edge of its base on the ground so that the highest point of the base is 20 mm above the ground. Draw its projections when a vertical plane containing the axis is inclined at 30° to the V.P. (20)

4. (a) A cone of base diameter 50 mm and axis height 70 mm is resting on HP on its base. It is cut by a section plane which is parallel to one of its extreme generators so that the true shape of the section is a parabola with base 45 mm. Draw the front view, sectional top view and true shape of the section. (20)

Or

(b) A hexagonal pyramid of base side 30 mm and axis 70 mm is resting on the ground with a side of base parallel to the V.P. A circular hole of diameter 30 mm is cut through the faces of the pyramid such that axes of the hole and the pyramid intersect at right angle and 25 mm above the base. Draw the development of its lateral surface. (20)

5. (a) Draw the isometric view of a frustum of a cone of base diameter 60 mm, top face diameter 30 mm and height of 55 mm, when its axis is vertical. (20)

Or

(b) A rectangular pyramid of base 30 mm × 40 mm and height 50 mm rests on the ground plane on its base with a corner of its base touching the Picture Plane. The longer base edge is on the right and inclined at 30° to the picture plane. The station point is 60 mm infront of the picture plane and 70 mm above the ground plane. If the central plane is 30 mm on the left of the axis of the pyramid, draw the perspective projection of the pyramid. (20)

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

Question Paper Code : 80175

13-5-19
AN

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

First Semester

GE 8152 — ENGINEERING GRAPHICS

(Common to all branches)

(Regulation 2017)

Time : Three hours Maximum : 100 marks

1. Diagrams should be neat and tidy
2. Lettering, Dimensioning and naming of diagrams carry marks
3. Correct usage of H, 2H, HB pencils should be followed while drawing
4. A3 size booklets consisting of 5 sheets would be given

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw free hand sketches of the front, top and right side views of block shown in Fig. 1.

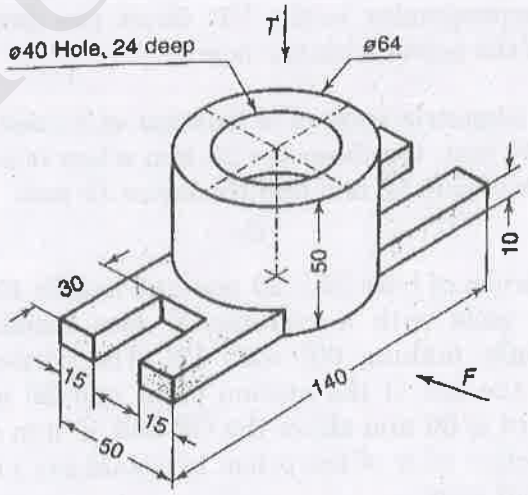


Fig. 1

Or

(b) A point P moves in such a way that its distance from a fixed straight line is 9 units while its distance from a fixed point is always 7 units. Draw the curve by choosing at least 10 points. Assume that the distance between the fixed straight line is 30 mm from that the fixed point.

2. (a) The end P of a line PQ is 30 mm above HP and 35 mm in front of VP. The line is inclined at 35° to the HP. Its top view is 70 mm long and inclined at 40° to XY. Draw the projections of the straight line. Locate the traces. Find the true length and inclination of the line with the VP.

Or

(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 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 the VP. Draw its top and front views.

Or

(b) A square pyramid of base side 60 mm and altitude 100 mm lies on the HP on one of its triangular faces with its axis parallel to the VP. Draw its projections.

4. (a) A pentagonal pyramid of base side 20 mm and altitude 45 mm rests on its base on the HP with an edge of the base perpendicular to the VP. It is cut by a plane perpendicular to both the HP and VP. The cutting plane cuts the object at 8 mm from the axis in the top view. Draw the front, top and right end views of the pyramid.

Or

(b) A hexagonal prism of base edge 25 mm and height 60 mm rests on one of its ends on the HP with a vertical face parallel to the VP. A horizontal hole of diameter 36 mm is drilled centrally right through the prism with its axis perpendicular to the VP. Draw the development of the lateral surfaces of the prism with the hole.

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

(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.

6/12/18 FN

Reg. No. :

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 | Maximum : 100 Marks

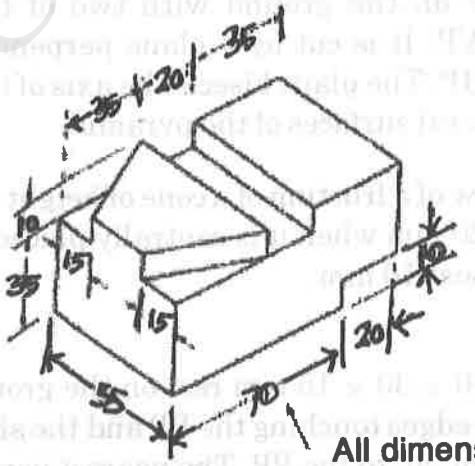
Answer ALL questions.
Answer any one question from each unit.
First angle projection to be followed.

(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.



All dimensions are in mm

Figure -1

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

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

b) A rectangular Prism 40 × 30 × 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.

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

Question Paper Code : 25111

B.E./B.Tech. DEGREE EXAMINATION, DECEMBER/JANUARY 2019.

First Semester

Civil Engineering

GE 8152 — ENGINEERING GRAPHICS

(Common to All Branches)

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw locus of a point on the periphery of a circle having diameter of 50 mm, which rolls on straight line path. Name the curve and draw a tangent and normal to the curve at any point Q on it.

Or

(b) Sketch by free hand the front view, the top view, and the right side view of the object shown in Figure 1. Assume proportional dimensions in mm.

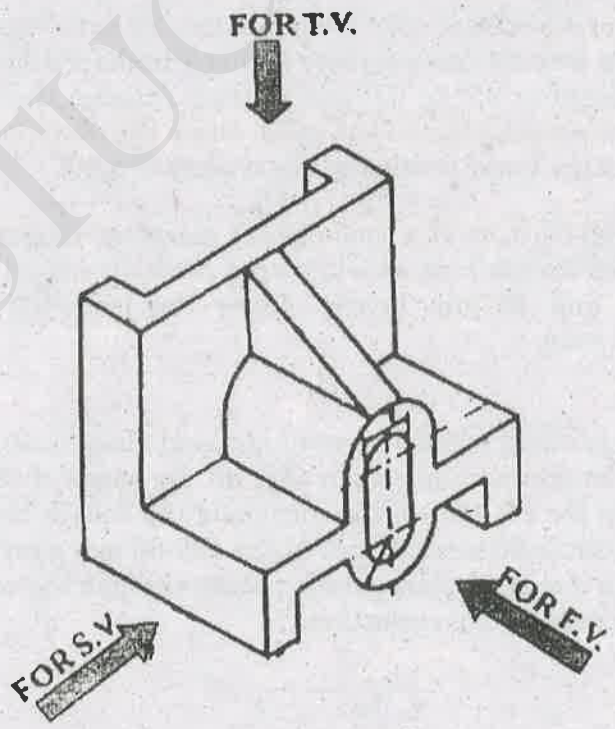


Figure 1

2. (a) A line a'b' is 50° inclined to xy and measures 55 mm long, while its top view is inclined at 60° to xy line. The end A of the line is 15 mm above HP and 20 mm in front of VP. Draw the projections of the line and find its true length and true inclinations with HP and VP. Also show its traces.

Or

(b) A rectangular lamina 40 × 70 mm size is standing on one of its corner with the sides equally inclined to HP. The surface of the lamina is inclined to VP at an angle of 30° to VP. The diagonal passing through the resting corner makes an angle of 55° with HP. Draw the projections of the rectangular lamina.

3. (a) A tetrahedron of 25 mm long edges is resting on one of its edges with a face containing that edge is perpendicular to HP and inclined at 30° to the V.P. Draw its projections.

Or

(b) A hexagonal pyramid having a base with a 30 mm side and an 80 mm long axis, is freely suspended from one of the corners of the base. Draw its projections when its axis is parallel to the V.P.

4. (a) A right circular cone of base diameter 60 mm and height 75 mm is resting on its base on the HP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP bisecting the axis of the cone. Draw the sectional top view and true shape of the section when the top half of the sectioned solid is removed.

Or

(b) A square prism of base edge 50 mm sides and axis 70 mm long s standing on its base with its faces equally inclined to the VP. It is cut by a section plane inclined at 45° to HP and passing through the intersection of the top surface and the face of the solid. Draw the development of the lateral surfaces of the lower portion of the truncated solid.

5. (a) An inverted frustum of a cone of base diameter 40 mm and top diameter 20 mm and 30 mm long axis is placed centrally over a cylinder of 70 mm diameter and 40 mm height. Draw the isometric projection of the combined solid.

Or

(b) A square pyramid of base edge 40 mm and altitude 50 mm, rests with its base on the ground plane such that all the edges of the base are equally inclined to the PP. One of the corners of the base is touching the PP. The station point is 60 mm in front of the PP, 80 mm above the ground plane and lies in a central plane which passes through the axis of the pyramid. Draw the perspective projection.

12/12/19 நவ

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

Question Paper Code : 90279

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

First Semester

Civil Engineering

GE 8152 – ENGINEERING GRAPHICS

(Common to all branches)

(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

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

1. a) A fixed point is 50 mm from a fixed line. Draw the locus of a point moving in such a way that its distance from the fixed straight line is equal to its distance from the fixed point. Name the curve and draw a tangent and a normal at a point horizontal distance of 40 mm from the directrix. **(20)**

(OR)

b) The pictorial view of an object is shown in Fig. 1. Draw the following views : **(20)**

i) Elevation in the direction of arrow.

ii) Top View and

iii) Left Side View.

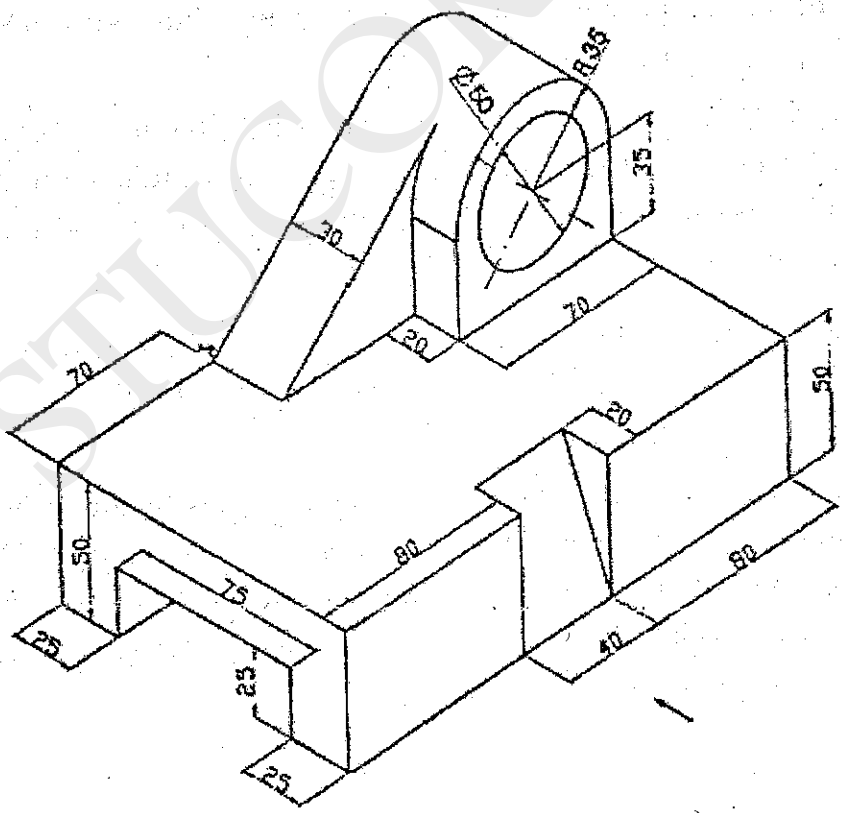


Fig. 1

2. a) A line PQ is inclined at 35° to VP has its ends 25 mm and 55 mm above the HP. The length of the front view is 60 mm and its VT is 15 mm above HP. Determine the true length of PQ, its inclination with HP and its HT. **(20)**

(OR)

b) A regular hexagon lamina of 25 mm side has its one of its edge on HP. The surface of the lamina is perpendicular to VP and inclined at 40° to HP. Draw the three views of the plane and locate the traces. **(20)**

3. a) A pentagonal pyramid of base side 25 mm and height 60 mm is resting on its base in HP with its axis perpendicular to HP and one of the base edges perpendicular to VP lying on its left. Draw its front view, top and right side views. **(20)**

(OR)

b) Draw the projections of a cone base 30 mm and axis 50 mm long resting on a point of its base circle in HP with the axis making an angle of 45° with HP and parallel to VP. **(20)**

4. a) A cube of side 35 mm is placed and cut by a plane in such a way that the true shape of the section is a regular hexagon. Draw the sectional front and top views of the cube and find the inclination of the section plane with the HP. **(20)**

(OR)

b) A vertical cylinder of diameter 40 mm and height 60 mm drilled by a hole of diameter 30 mm, such that the axis of the hole is perpendicular to VP, parallel to HP and bisecting the axis of the cylinder. Draw the lateral surface of development of the solid. **(20)**

5. a) A square pyramid of side 30 mm, axis length 50 mm is centrally placed on top of cube of side 50 mm. Draw the isometric view of solid. **(20)**

(OR)

b) A square prism of 30 mm base side and 50 mm axis height is lying on the ground on its base with a face parallel to and 15 mm behind PP. The station point is 40 mm in front of PP and 60 mm above GP and lies in a central plane passing through a point 25 mm to the right of the right end of the prism. Draw the prespective projection of the prism. **(20)**

105/17 AN

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

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.

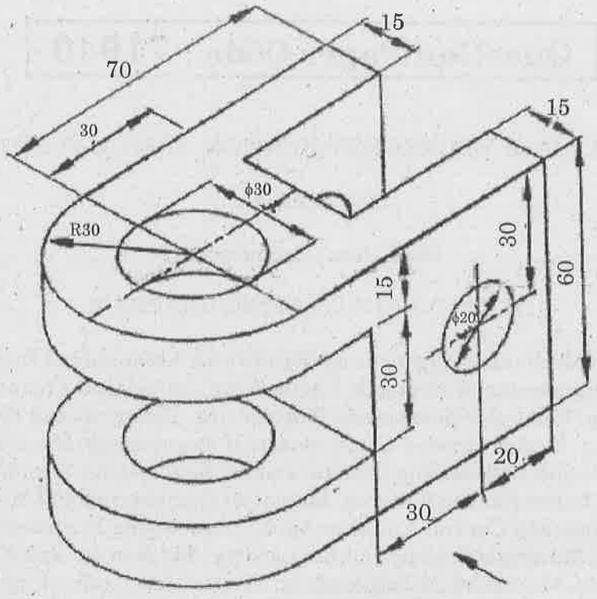
(5 × 20 = 100)

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)

05/06/18 FN

Reg. No. :

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.

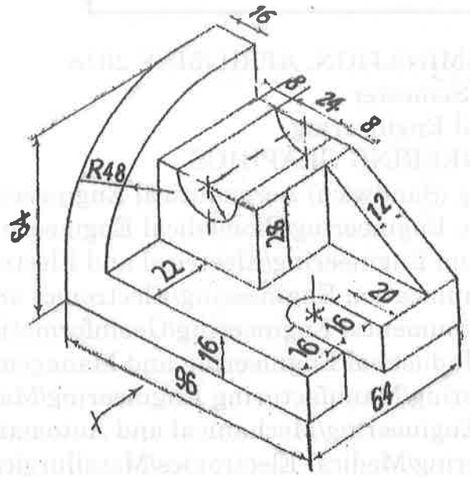


figure 1

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 × 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.

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

Question Paper Code : 53125

B.E./B.Tech. DEGREE EXAMINATIONS APRIL/MAY 2019.

First Semester

Mechanical Engineering

GE 6152 – ENGINEERING GRAPHICS

(Common to all branches)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

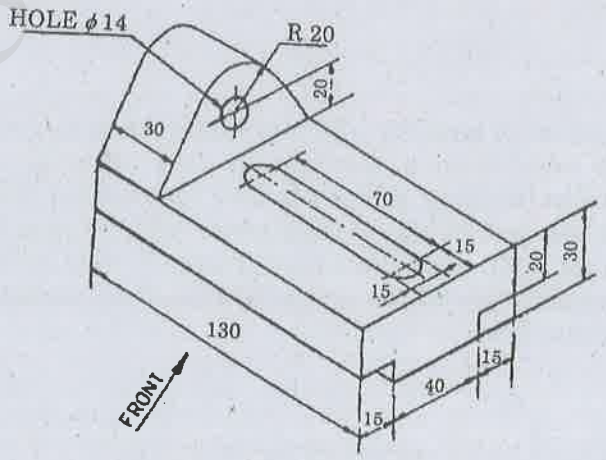
(5 × 20 = 100)

1. (a) (i) A String of length 220 mm is wound round a circle of radius 25 mm. Draw the path traced by the end of the string. Also draw a tangent and normal to a point on the involute. (10)

(ii) Construct a vernier scale of RF = 1/30 to read centimeters upto 5 meters and on it show lengths of 3.72 m and 2.86 m. (10)

Or

(b) Sketch by free hand the top view, front view and any one side view of the object shown, all dimensions are in mm.



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 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 cube of side 30 mm rests on the HP on its end with the vertical faces 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 25 mm above the base. Draw its front view, sectional top view and the true shape of the section.

Or

(b) A circular hole of diameter 30 mm is drilled through a vertical cylinder of diameter 50 mm and height 65 mm. The axis of the hold is perpendicular to the VP and meets the axis of the cylinder at right angles at a height of 30 mm above the base. Draw the development of the lateral surface of the 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.

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

Question Paper Code : 80503

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

First Semester

Mechanical Engineering

GE 6152 — ENGINEERING GRAPHICS

(Common to all Branches)

(Regulation 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

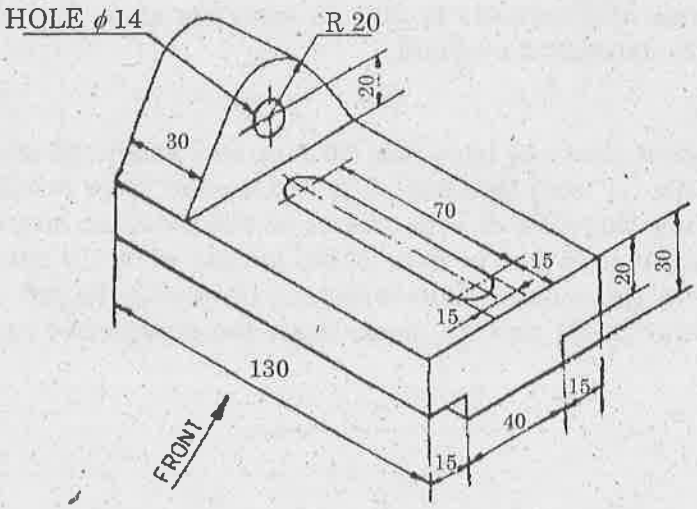
(5 × 20 = 100 marks)

1. (a) (i) A String of length 220 mm is wound round a circle of radius 25 mm. Draw the path traced by the end of the string. Also draw a tangent and normal to a point on the involute. (10)

(ii) Construct a vernier scale of RF = 1/30 to read centimeters upto 5 meters and on it show lengths of 3.72 m and 2.86 m. (10)

Or

(b) Sketch by free hand the top view, front view and any one side views of the object shown, all dimensions are in mm.



2. (a) The distance between the projectors of two points A and B is 70 mm. Point A is 10 mm above the H.P. and 15 mm in front of the V.P., Point B is 50 mm above the H.P. and 40 mm in front of the V.P. Find the shortest distance between A and B by the rotating line method. Measure the true inclinations of the line AB with the V.P and the H.P. Also mark the traces.

Or

(b) A pentagon of 35 mm side is resting on one of its corners on the VP. The edge opposite to that corner makes an angle of 30° to the HP. The surface of the pentagon is inclined at 40° to the VP. Draw the projections.

3. (a) A hexagonal pyramid of base side 30 mm and axis height 65 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) Draw the projections of a pentagonal pyramid of base side 25 mm and altitude 60 mm when it rests on the ground on one of its base edges with the axis inclined at 30° to the ground and parallel to the VP. Use change of reference line method.

4. (a) A cone of base diameter 50 mm and height 65 mm is resting on HP on its base. A Section plane cuts the cone in such a way that it is perpendicular HP and 35° inclined to VP. Also the section plane is passing through the cone at a distance of 12 mm in front of the axis. Draw its sectional front view and true shape of the section.

Or

(b) A cylinder of base 60 mm diameter and height of 75 mm rests with its base on HP. A section plane perpendicular to VP and inclined at 30° to HP bisects the axis of the cylinder. Draw the development of its lateral surface.

5. (a) A pentagonal pyramid base 25 mm and height 65 mm stands with its base on HP and edge of the base parallel to VP and nearer to it. A section plane cuts the pyramid at 30° inclined to HP and passes through a point on the axis at a distance of 20 mm from the apex. Draw the isometric view of the truncated pyramid.

Or

(b) A hexagonal prism of base side 25 mm and height 50 mm lies with its base on the GP such that one of its rectangular faces is inclined at 30° to the PP and the vertical edge nearer to the PP is 15 mm behind it. The station point is 45 mm in front of the picture plane 70 mm above the GP and lies in the central plane which is 15 mm to the left of the vertical edge nearer to the picture plane Draw the perspective projection of the prism.

Reg. No. :

Question Paper Code : 91660

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

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 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. **(20)**

(OR)

b) Draw the following views of the component shown in Fig. 1 by free hand sketching : **(20)**

i) Front view

ii) Top view and

iii) Right side view

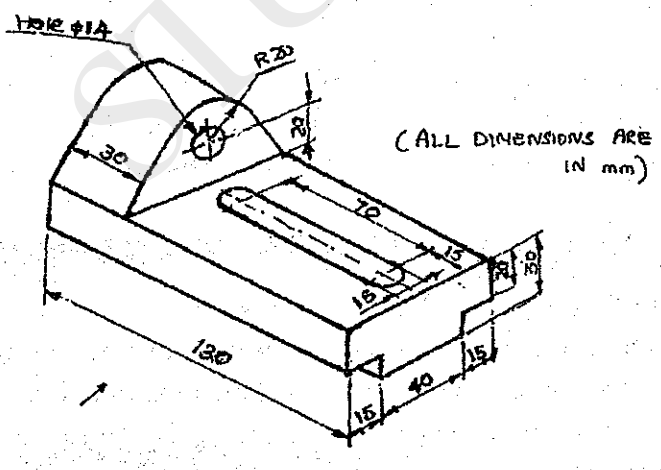


Fig. 1

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 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. **(20)**

(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. **(20)**

4. a) A cone of base diameter 50 mm and height 65 mm is resting on HP on its base. A section plane cuts the cone in such a way that it is perpendicular HP and 35° inclined to VP. Also the section plane is passing through the cone at a distance of 12 mm in front of the axis. Draw its sectional front view and true shape of the section. **(20)**

(OR)

b) A cylinder of base 60 mm diameter and height of 75 mm rests with its base on HP. A section plane perpendicular to VP and inclined at 30° to HP bisects the axis of the cylinder. Draw the development of its lateral surface. **(20)**

5. a) Draw the isometric projection of a sphere of diameter 16 mm kept centrally over a frustum of a square pyramid of height 25 mm. The frustum has a base of side 35 mm and top of side 20 mm. Take isometric lengths from an isometric scale drawn. **(20)**

(OR)

b) Draw the perspective view of a pentagonal prism of base side 20 mm and height 40 mm when it rests on its base on the ground plane with one of its rectangular faces parallel to and 20 mm behind the picture plane. The station point is 45 mm in front of the PP and 60 mm above the GP. The observer is 20 mm to the left of the axis. Draw the perspective by visual ray method. Use the top view and front view. **(20)**