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2017 - 2026

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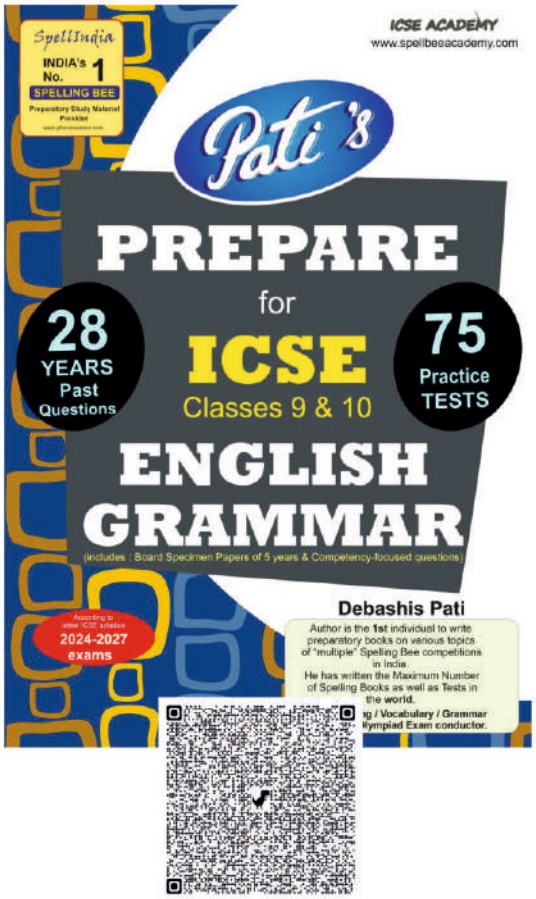

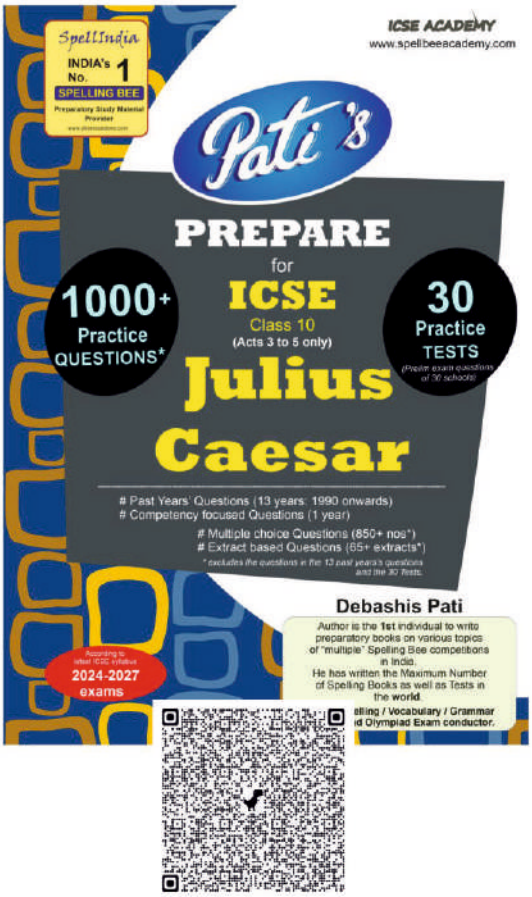

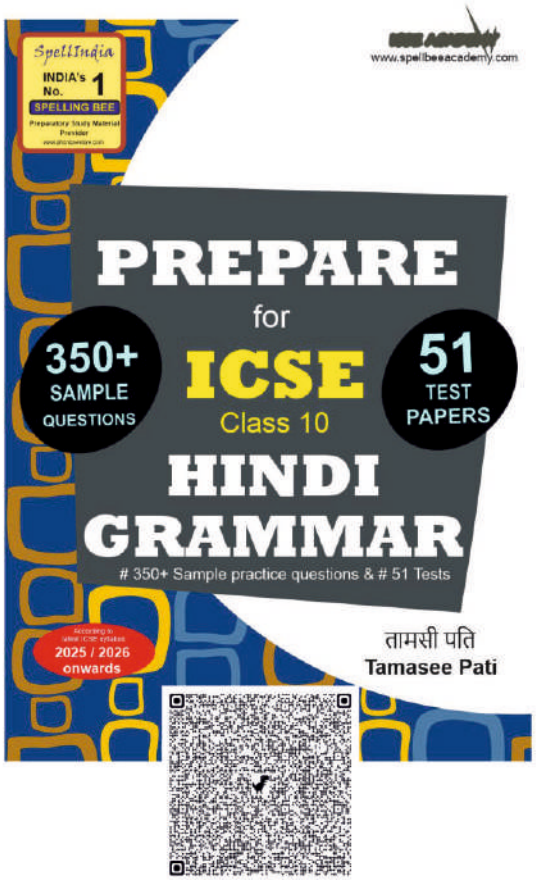

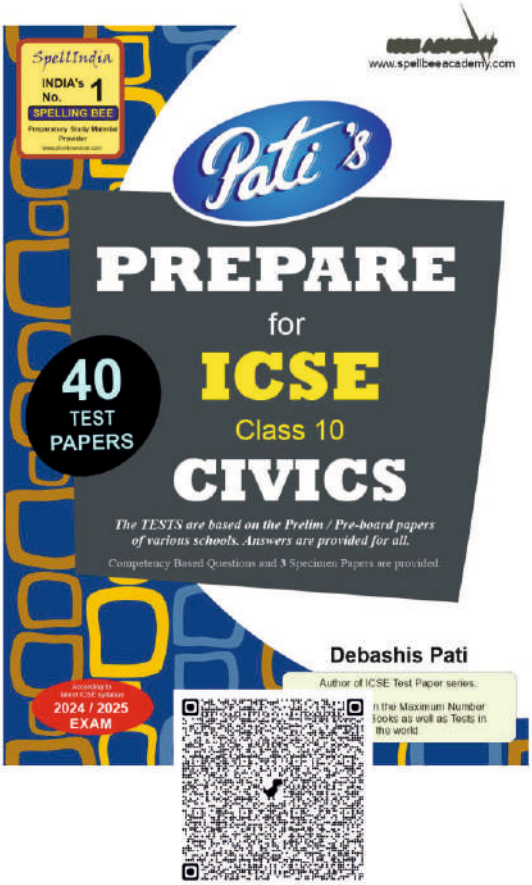

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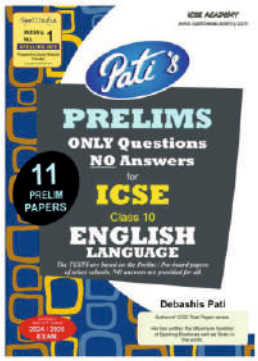

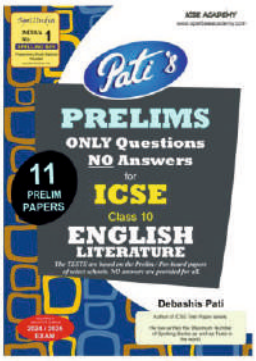

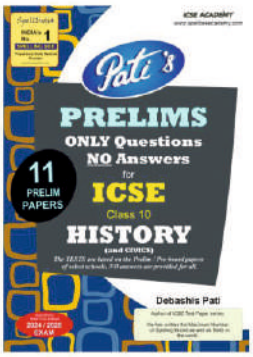

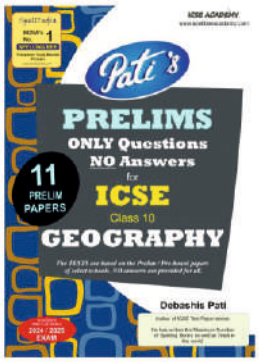

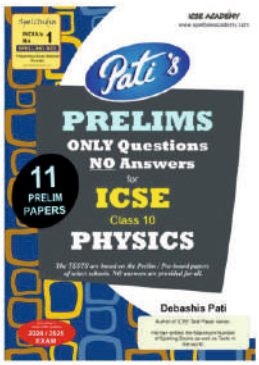

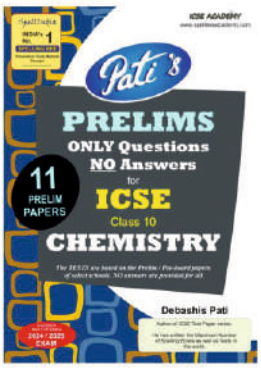

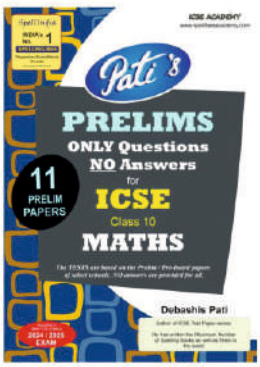

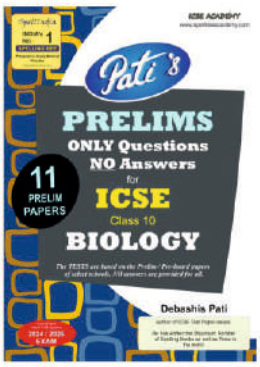

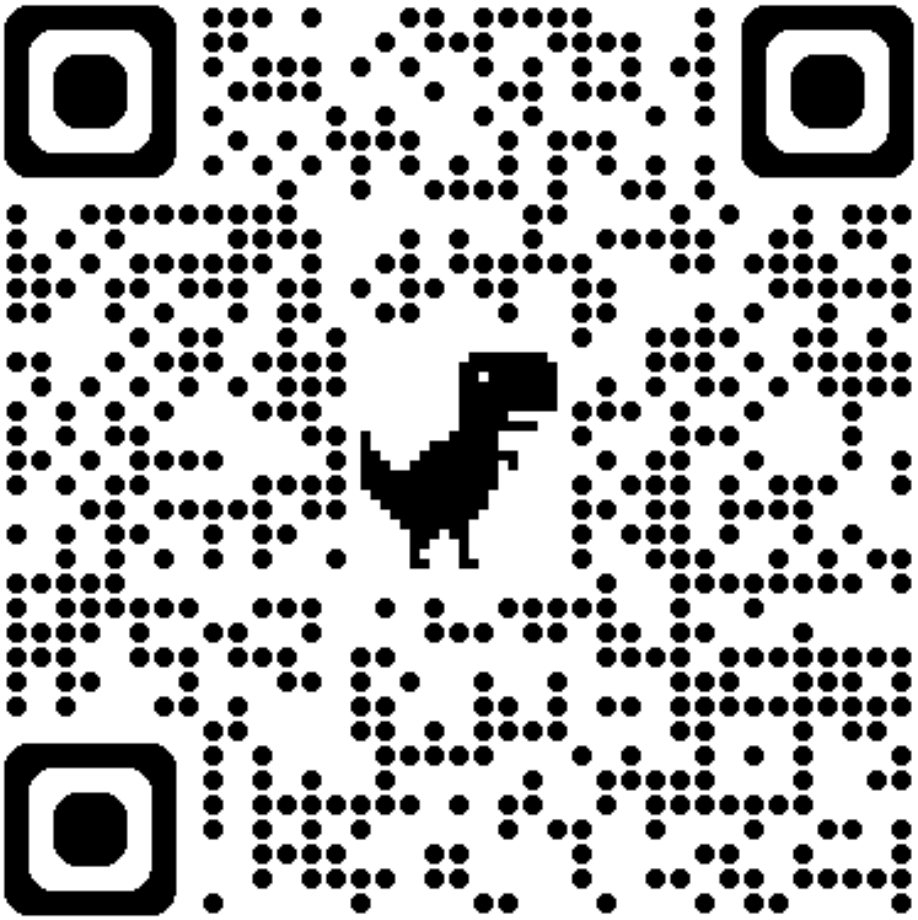

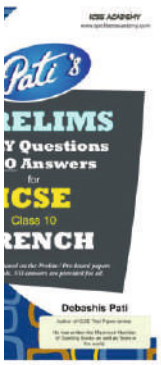

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- 2024
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- 2019
- 2018
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Note : There was no board exam in 2021 and 2022 due to COVID.

2026

2026 paper will be shared here in June 2026

2025

F6000829

TECHNICAL DRAWING APPLICATIONS

Maximum Marks: 100

Time allowed: Three hours

1. *Answers to this Paper must be written on the paper provided separately.*
2. *You will **not** be allowed to write during the first **15** minutes.*
3. *This time is to be spent in reading the question paper.*
4. ***The time given at the head of this Paper is the time allowed for writing the answers.***

5. *Attempt **five** questions in all.*
6. *You must attempt **three** questions from **Section A** and **two** questions from **Section B**.*
7. *Each section should be answered on a separate paper.*
8. *All questions must be answered in full scale.*
9. *All construction lines must be shown.*
10. *All dimensions are in millimetres unless specified otherwise.*
11. *The intended marks for questions or parts of questions are given in brackets[ ].*

Instruction for the Supervising Examiner

Kindly read aloud the Instructions given above to all the candidates present in the Examination Hall.

This paper consists of 7 printed pages and 1 blank page.

SECTION A (48 Marks)

*Answer any **three** questions from this Section.*

Question 1

In a working drawing, a line measuring 20 cm was marked as 5 m. Calculate the R.F. (Representative Fraction). [16]

Construct a **DIAGONAL SCALE** which has the same R.F. and is long enough to measure up to 7 m. Show the data and working neatly.

Taking measurements from the scale constructed, draw a parallelogram ABCD given side AB = 2.25 m, side AD = 0.87 m and ∠DAB = 60°. Then construct a triangle of area equal to the area of the parallelogram.

Question 2

(i) Construct a triangle ABC of Perimeter 155 mm and with ratio of the sides AB : BC : CA = 3 : 5 : 4. Show all construction lines. [6]

(ii) **Figure 1** given below shows the Front View (F.V.) and the Top View (T.V.) of a cone with axis perpendicular to the vertical plane and parallel to the horizontal plane in the **FIRST ANGLE METHOD** of projection. [10]

Draw the Auxiliary Front View of the Cone. The auxiliary plane X_1Y_1 is shown in the figure.

Given: Radius of the base = 25 mm

Length of Axis = 80 mm

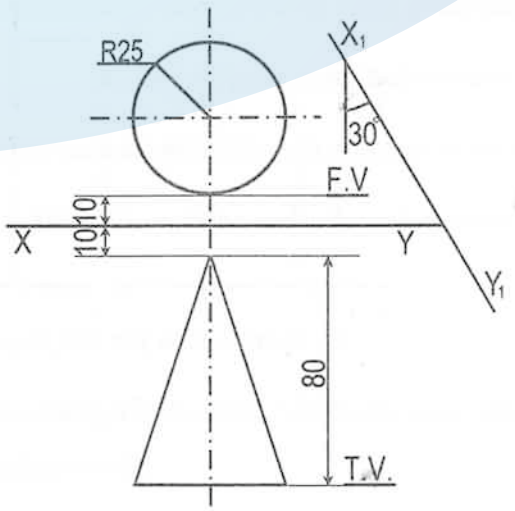

Figure 1

Question 3

Refer to **Figure 2** given below. It shows the Front View (F.V.) and the Top View (T.V.) of an object in the **FIRST ANGLE METHOD** of projection. Draw the **OBLIQUE VIEW** when the receding axis is inclined at 45° to the horizontal. [16]

(Do not insert any dimensions.)

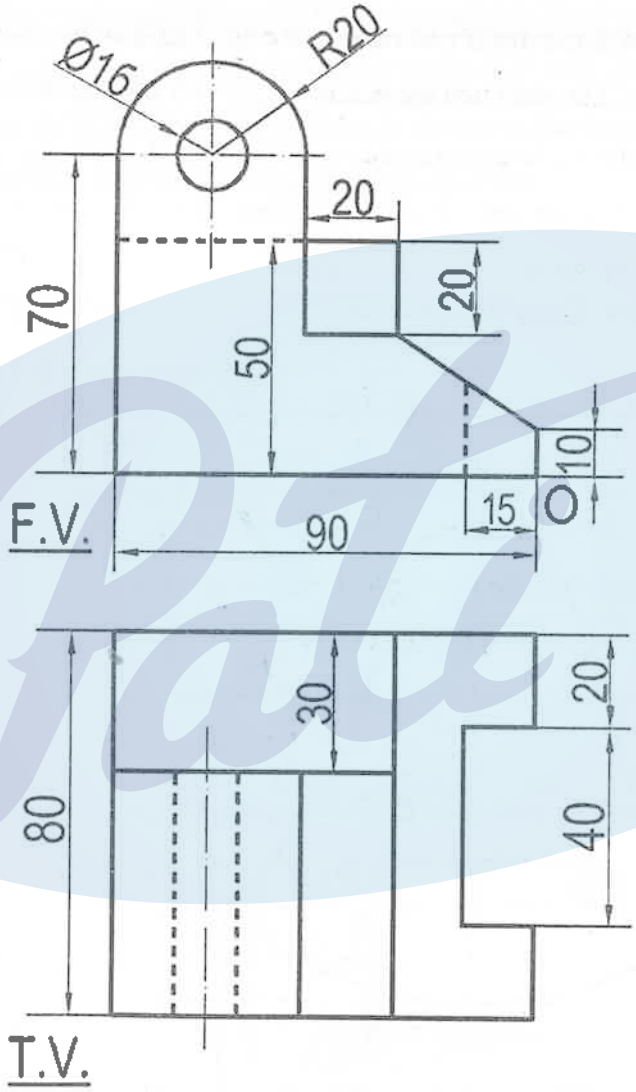

Figure 2

Question 4

(i) Inscribe three equal circles in a given equilateral triangle of side 100 mm, in such a way that each circle will touch two sides of the triangle and two other circles externally. [8]

(ii) Draw a direct common tangent to two circles, one with centre A and radius 40 mm and the other with centre B and radius 25 mm. The distance between the two centres is 125 mm. Measure and record its length in 5 mm guidelines. [8]

Question 5

Refer to **Figure 3** given below. Copy the given template. [16]

(Insert all dimensions.)

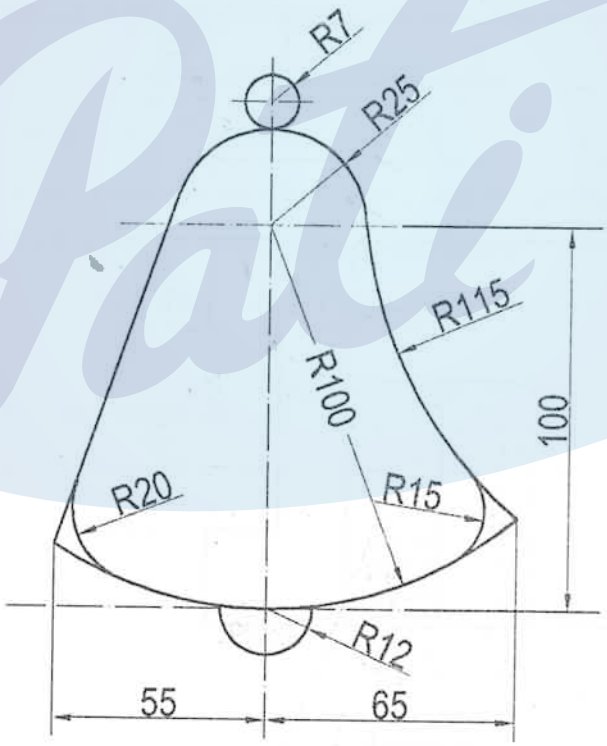

Figure 3

SECTION B (52 Marks)

Answer any two questions from this section.

Question 6

Refer to **Figure 4** given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right square pyramid in the **THIRD ANGLE METHOD** of projection. Its axis is perpendicular to the Horizontal Plane (H.P.) and parallel to the Vertical Plane (V.P.). The pyramid is cut by a cutting plane inclined at 30° to the H.P. and perpendicular to the V.P. The Vertical Trace (V.T.) of the cutting plane is shown in the figure. [26]

Using **FIRST ANGLE METHOD** of projection draw the:

(i) Front View

(ii) Sectional Top View

(iii) Sectional Left Hand Side View

(iv) Auxiliary Top View

Given: Side of base = 40 mm, Length of axis = 75 mm

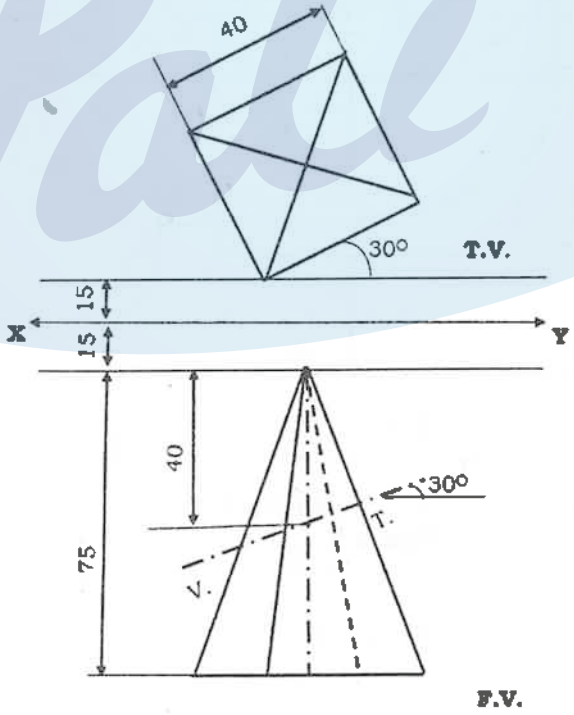

Figure 4

Question 7

Refer to **Figure 5** given below. It shows Front View (F.V.) and Top View (T.V.) of a machine block in **FIRST ANGLE METHOD** of Projection. Draw the **ISOMETRIC VIEW.** [26]

(Do not insert any dimensions.)

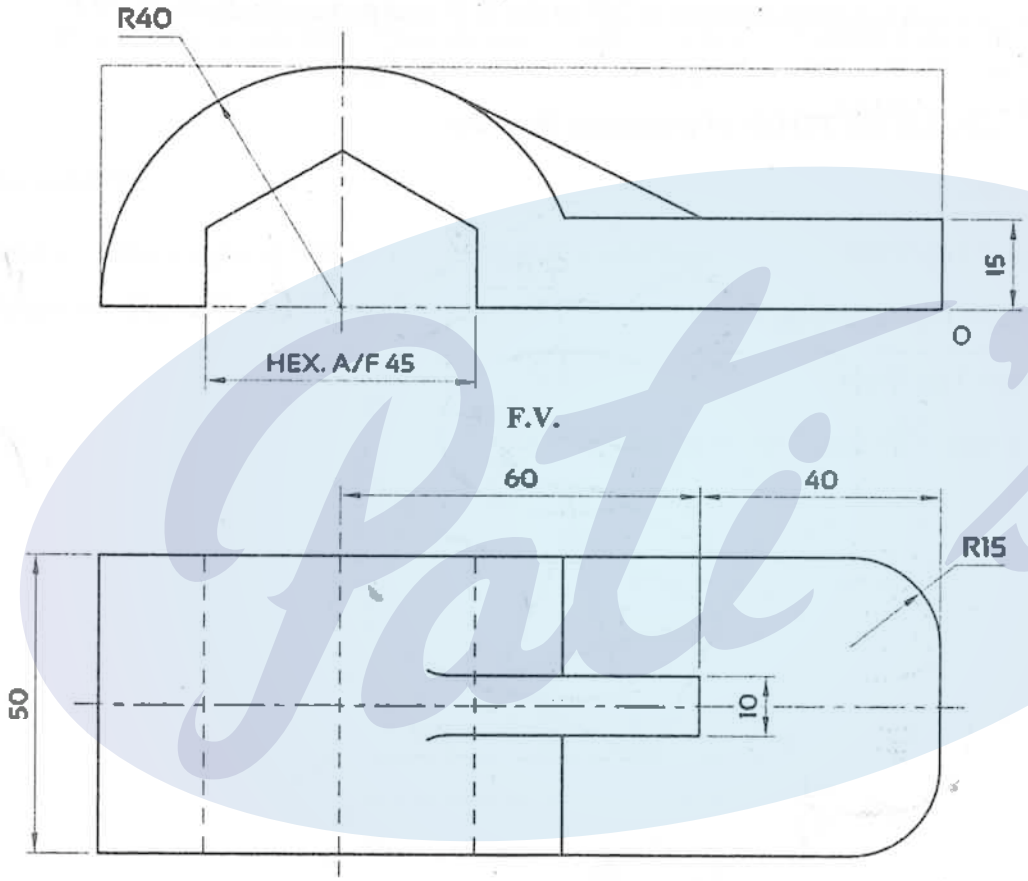

Figure 5

Question 8

Refer to **Figure 6** given below. [26]

Using the **FIRST ANGLE METHOD** of projection, draw the:

(i) Sectional Front View [Section along A–A]

(ii) Top View

(iii) Left Hand Side View

(Insert any six dimensions.)

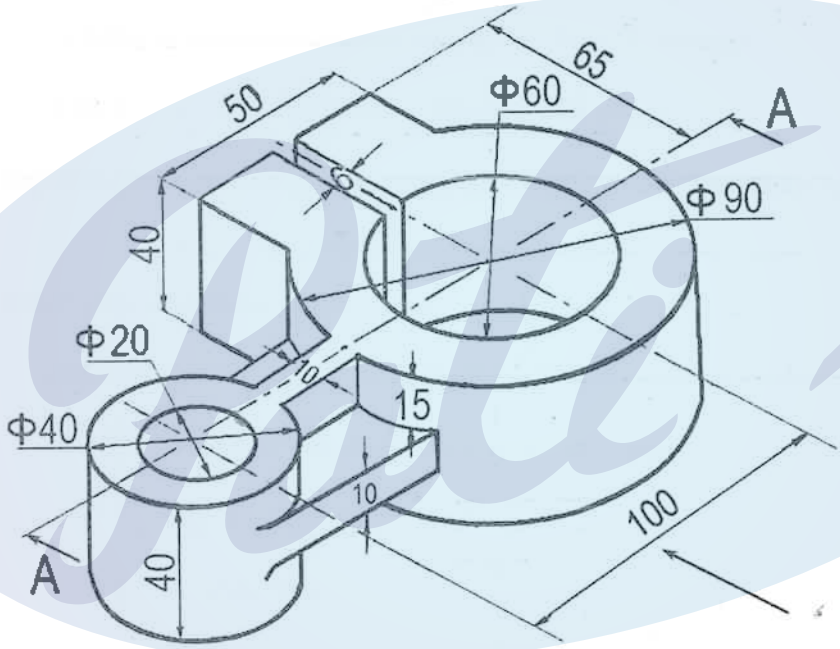

Figure 6

2024

TECHNICAL DRAWING APPLICATIONS

Maximum Marks: 100

Time allowed: Three hours

Answers to this Paper must be written on the paper provided separately.

*You will **not** be allowed to write during the first **15** minutes.*

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B.***

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for questions or parts of questions are given in brackets[ ].

SECTION A (48 Marks)

*Answer any **three** questions from this Section.*

Question 1

(i) Construct a square of side 30 mm. Construct four equal circles outside this square, each touching one side of the square and two other circles externally. [16]

(ii) Construct a Parabola by Rectangle Method.

Given: Base =140 mm and Axis height = 90 mm.

Question 2

On a map, a line measuring 8 cm represents a distance of 15 dm. Calculate the R.F. [16]

Construct a suitable scale having the same R.F. and long enough to measure 2.84 metres.

Show the data and the working neatly.

Taking the measurements from the scale constructed, draw a quadrilateral ABCD.

Given: BC = 2.58 m, ∠ABC = 45°, AB = 1.63 m and AD = CD = 1.06 m

Question 3

Refer to Figure 1 given below. [16]

Copy the given template.

(Insert any six dimensions.)

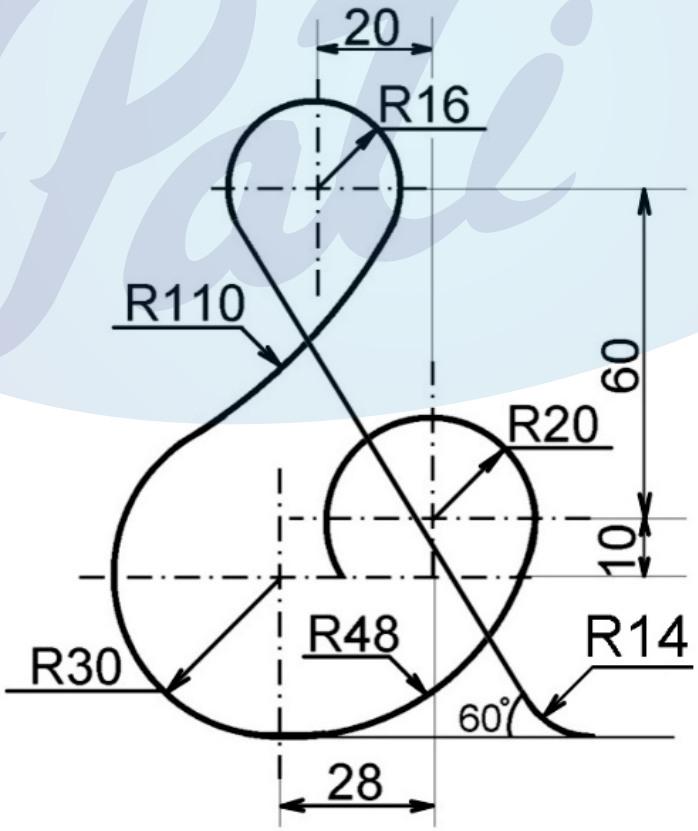

Figure 1

Question 4

Draw the Front View, Top View and the Left Hand Side View of a right hexagonal pyramid which has its axis inclined at 60° to the vertical plane (V.P.) and parallel to the horizontal plane (H.P.). One side of the base is inclined at 45° to the horizontal plane (H.P.). [16]

Side of base = 30 mm and Length of Axis = 75 mm.

Use First angle method of projection.

Question 5

Refer to Figure 2 given below. It shows the Front View (F.V.) and the Right Hand Side View (R.H.S.V.) of an object in the third angle method of projection. Draw the OBLIQUE VIEW when the receding axis is inclined at 45° to the horizontal. [16]

(Do not insert any dimensions.)

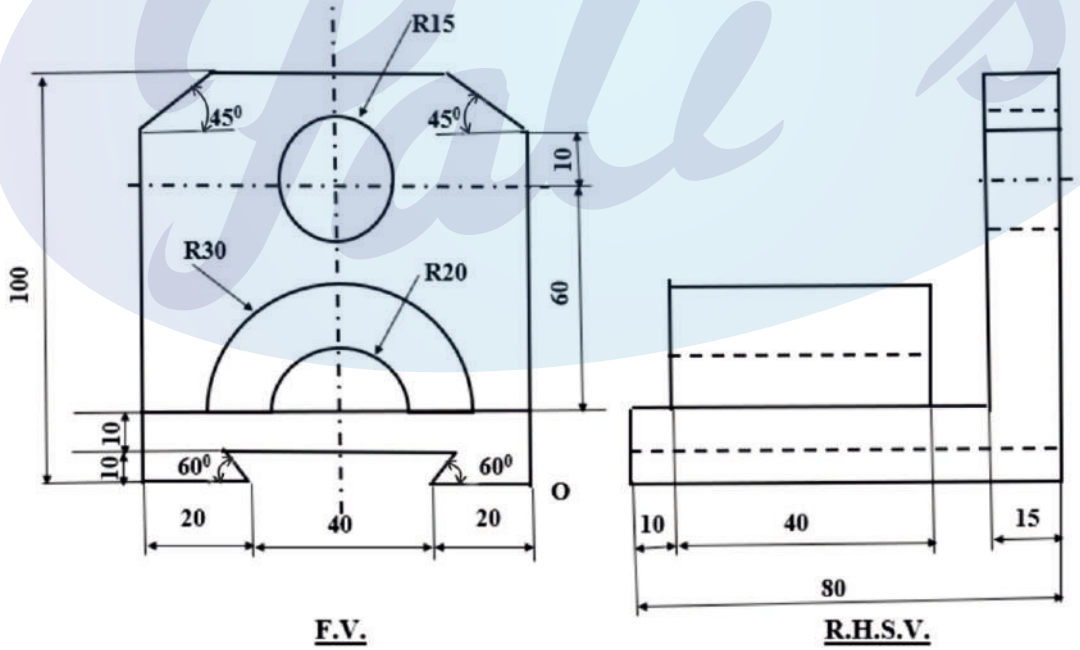

Figure 2

SECTION B (52 Marks)

*Answer any **two** questions from this section.*

Question 6

Refer to the Figure 3 given below. [26]

Construct an Isometric Scale. Using the scale draw the Isometric Projection for the given isometric view.

(Do not insert any dimensions.)

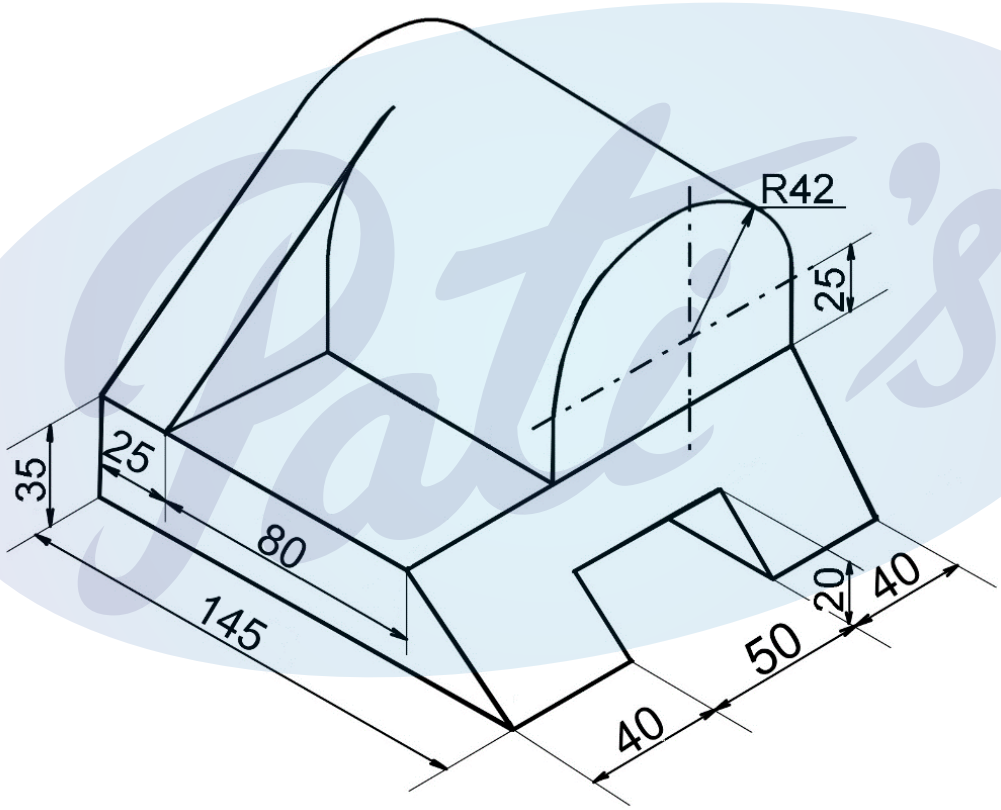

Figure 3

Question 7

[26]

Refer to Figure 4 given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right circular cone in the first angle method of projection. Its axis is perpendicular to the Horizontal Plane (H.P.) and parallel to the Vertical Plane (V.P.). The cone is cut by a cutting plane which is perpendicular to the V.P. and inclined at 60 ° to the H.P. The Vertical Trace (V.T.) of the cutting plane is shown in the figure.

Using First angle method of projections, draw the:

(i) Front View

(ii) Sectional Top View

(iii) Development of the lateral surface of the remaining pyramid.

(iv) True Shape of the section

Given: Diameter of the base = 64 mm

Slant height = 96 mm.

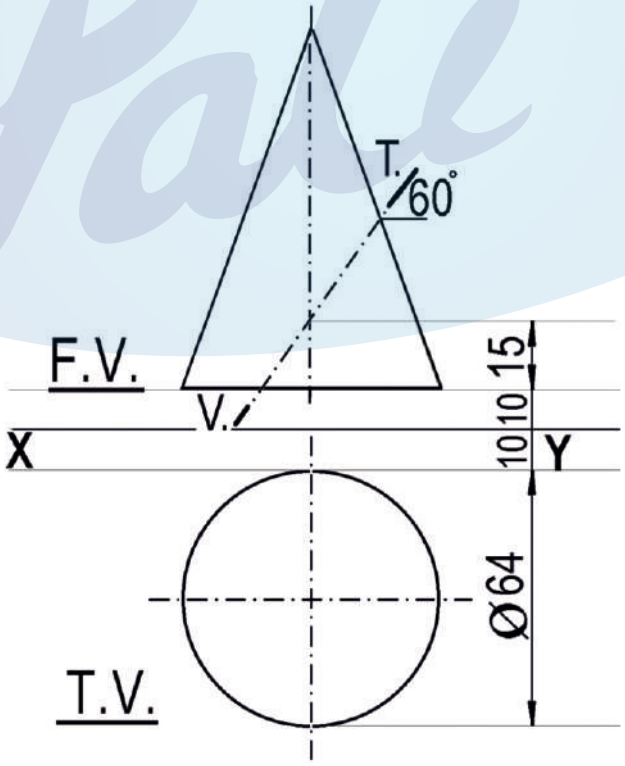

Figure 4

Question 8

Refer to Figure 5 given below. [26]

Using the FIRST ANGLE METHOD of projection, draw the:

(i) Sectional Front View [Section along A–A]

(ii) Top View

(iii) Right Hand Side View.

(Insert any six dimensions.)

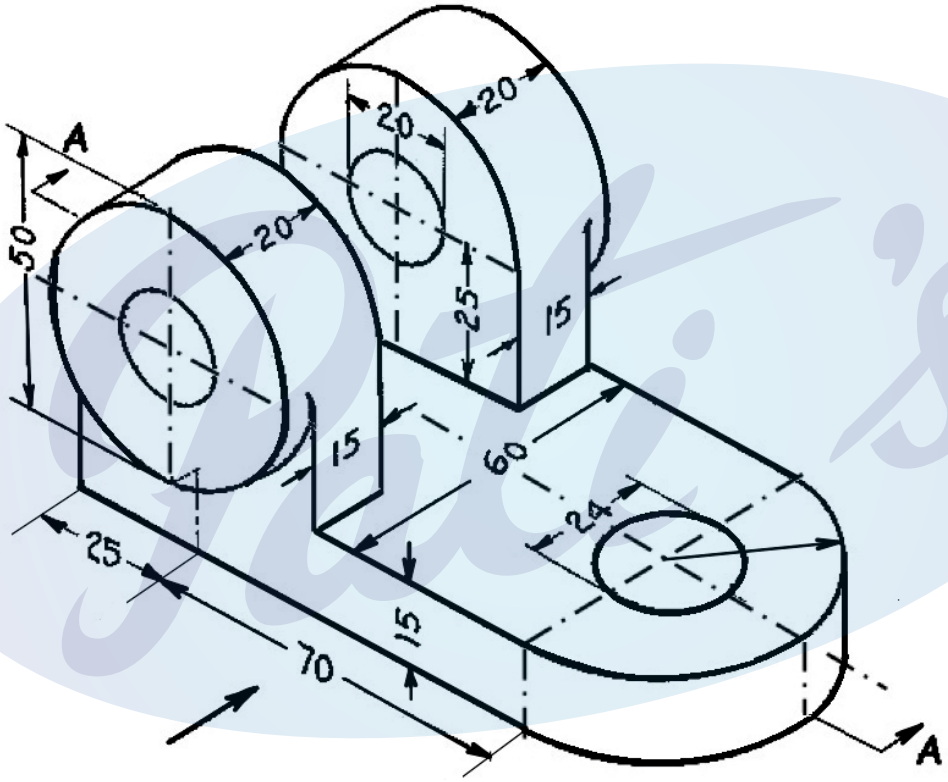

Figure 5

2023

TECHNICAL DRAWING APPLICATIONS

Maximum Marks: 100

Time allowed: Three hours

Answers to this Paper must be written on the paper provided separately.

*You will **not** be allowed to write during the first **15** minutes.*

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B.***

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for questions or parts of questions are given in brackets[ ].

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1

(i) Find the circumference of a circle of radius 32 mm geometrically. [6]

Measure and record the length of the circumference.

(ii) Construct an Ellipse by ARCS OF CIRCLES METHOD. [10]

Given: - Major Axis =135 mm and Minor axis = 80 mm.

Question 2

Refer to Figure 1 given below. [16]

Copy the given template.

(Insert all dimensions.)

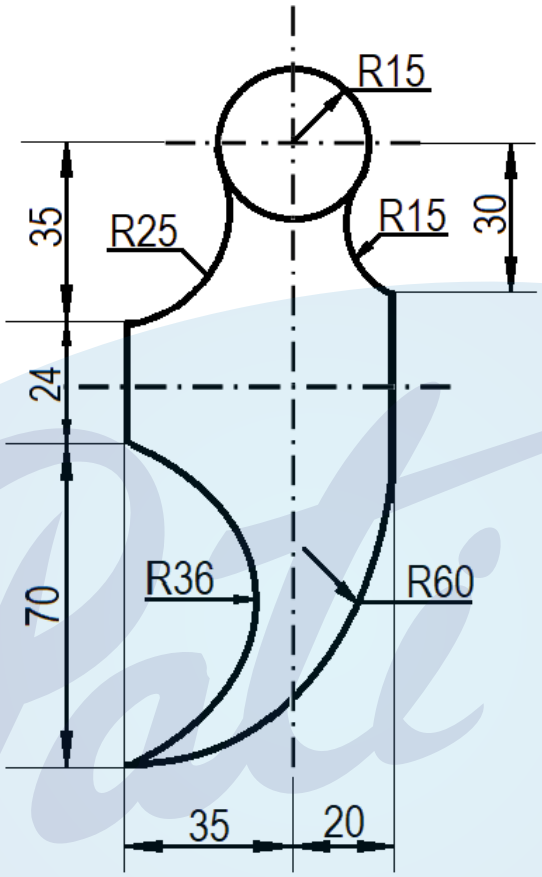

FIGURE 1

Question 3

On a map a line 2 cm long was marked as 5 m. Calculate the R.F. [16]

Construct a PLAIN SCALE having the same R.F. and long enough to measure 27 metres.

Show the data and the working neatly.

Taking the measurements from the scale constructed, draw a circle of radius 13 m and inscribe in it an equilateral triangle.

Question 4

Draw Front View (F.V.), Top View (T.V.) and Left Hand Side View (L.H.S.V.) of a right square prism whose axis is inclined at 45° to Horizontal Plane (H.P.) and parallel to Vertical Plane (V.P.) One side of the base is inclined at 30° to V.P. Use **FIRST ANGLE METHOD** of projection. [16]

Given: Side of base = 40 mm.

Axis = 75 mm.

Question 5

Refer to Figure 2 given below. It shows the Front View (F.V.) and the Right Hand Side View (R.H.S.V.) of an object in the first angle method of projection. Draw the OBLIQUE VIEW when the receding axis is inclined at 45°to the horizontal. [16]

(Do not insert any dimensions.)

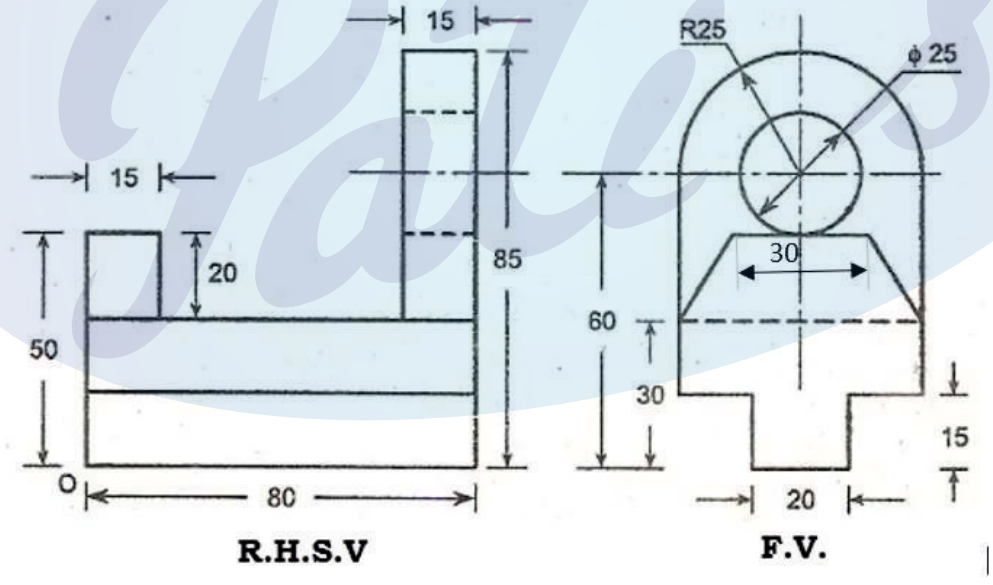

FIGURE 2

SECTION B (52 Marks)

*Answer any **two** questions from this section.*

Question 6

Refer to Figure 3 given below. It shows the Front View (F.V.) and the Top View (T.V.) of an object in the first angle method of projection. [26]

Draw its ISOMETRIC VIEW.

(Do not insert any dimensions.)

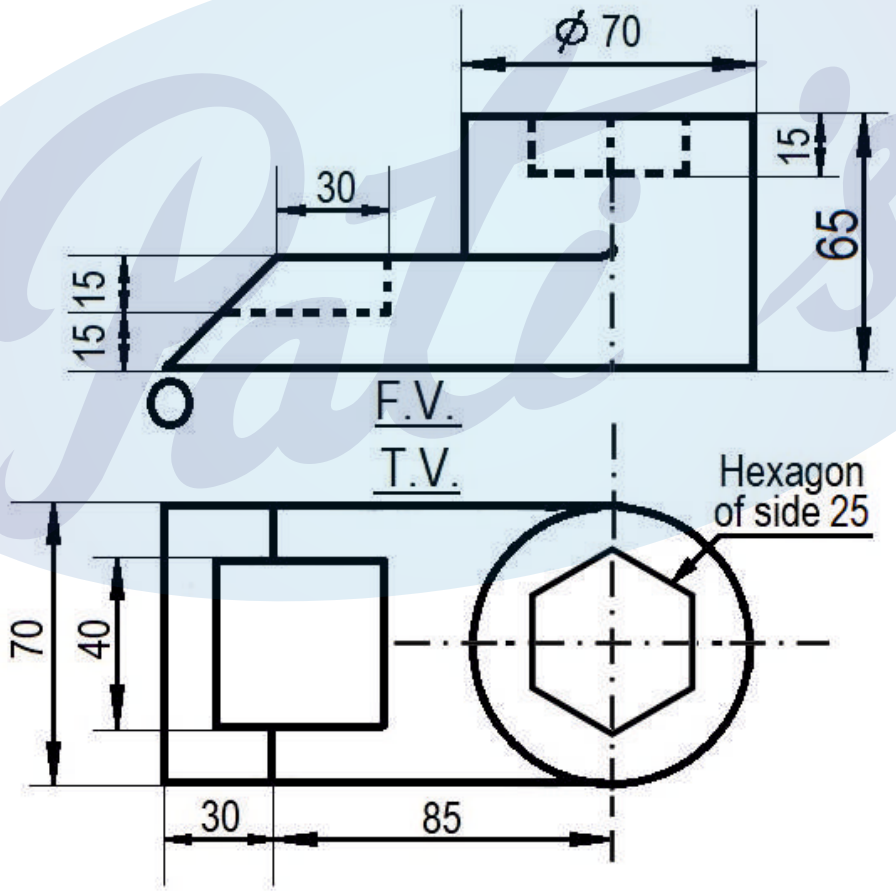

FIGURE 3

Question 7

[26]

Refer to Figure 4 given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right circular Cylinder in the first angle method of projection. Its axis is perpendicular to the horizontal plane and parallel to the vertical plane. The Vertical Trace (V.T.) of the cutting plane is shown in the figure.

Using the FIRST ANGLE METHOD of projections, draw the:

(i) Front View

(ii) Sectional Top View

(iii) Development of the lateral surface of the part P.

(iv) True shape of the section.

Given: Diameter of the base = 60 mm

Length of axis = 80 mm.

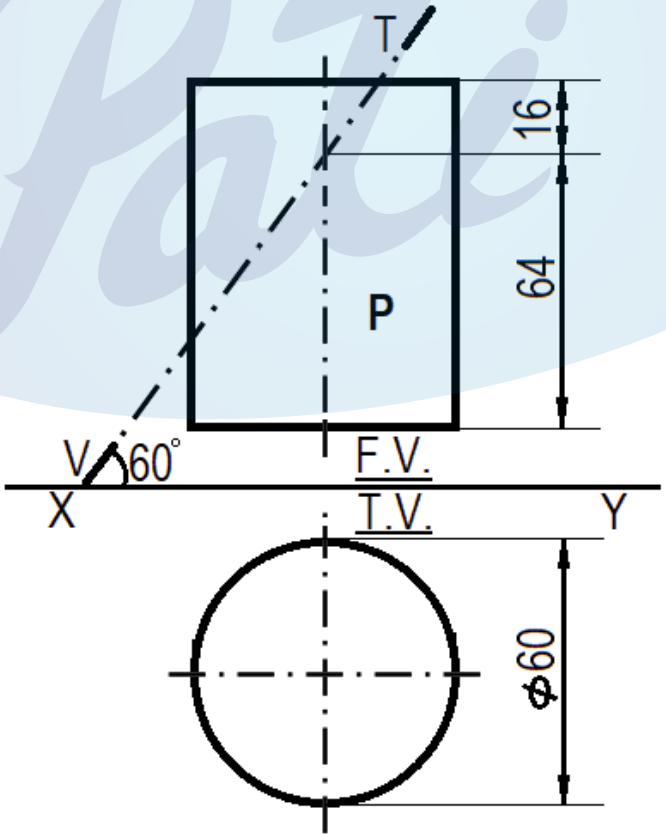

FIGURE 4

Question 8

Refer to Figure 5 given below. [26]

Using the FIRST ANGLE METHOD of projection, draw the:

(i) Sectional Front View [Sectioned along A–A]

(ii) Top View

(Insert any 6 dimensions.)

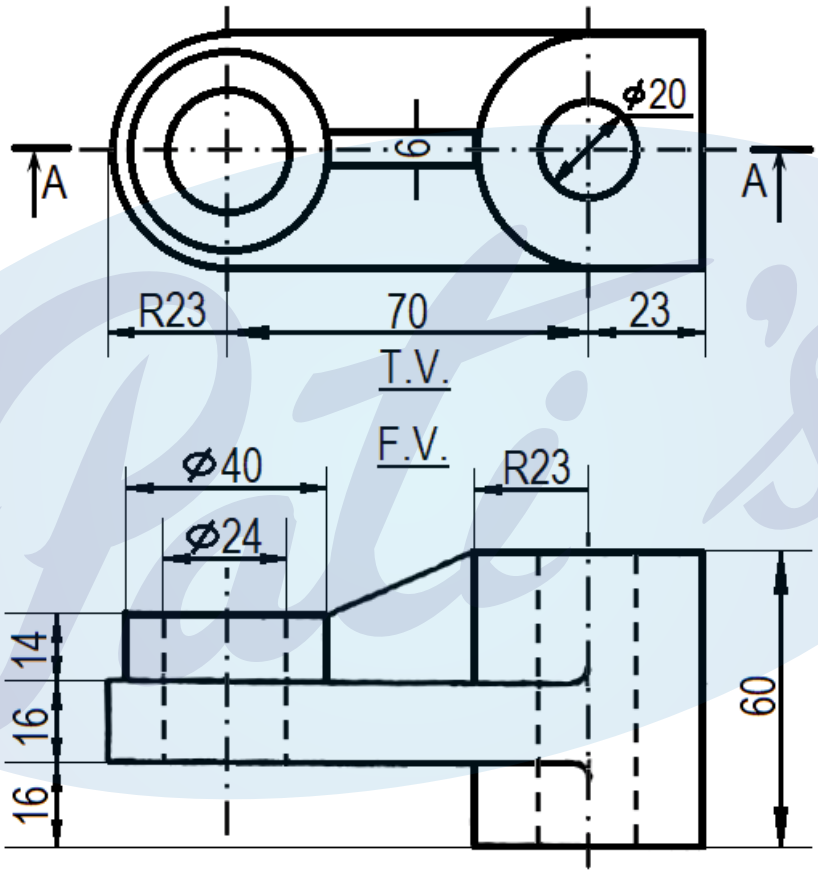

FIGURE 5

2020

TECHNICAL DRAWING APPLICATIONS

(*Three hours)*

*Answers to this paper must be written **neatly** on the paper provided separately.*

*You will **not** be allowed to draw/write during the first 15 minutes.*

This time is to be spent in reading the question paper.

The time given at the head of the paper is the time allowed for writing the answers.

---

*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B***

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for question or parts of questions are given in brackets [ ].

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1.

Draw the Front View, Top View, Right Hand Side View and development of the lateral surface of a right hexagonal pyramid whose axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). One side of its base is inclined at 45° to the V.P. [16]

Use the **THIRD ANGLE METHOD** of projection.

Given: Side of the base = 30mm

Length of the axis = 75mm.

Question 2.

Refer to **Figure 1** given below. [16]

Copy the given template.

(Insert any 6 dimensions.)

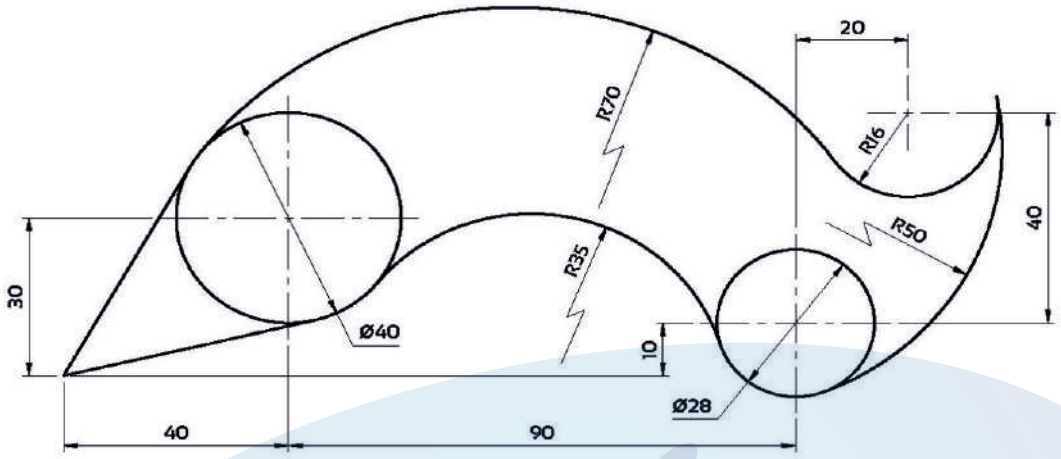

Figure 1

Question 3.

Given: R. F. = 1: 500. [16]

Construct a **PLAIN SCALE** to measure the length upto 60 metres.

Taking the measurements from the scale constructed, draw a neat scale diagram of a jogging track shown in the **Figure 2** given below.

Show the data and the working neatly.

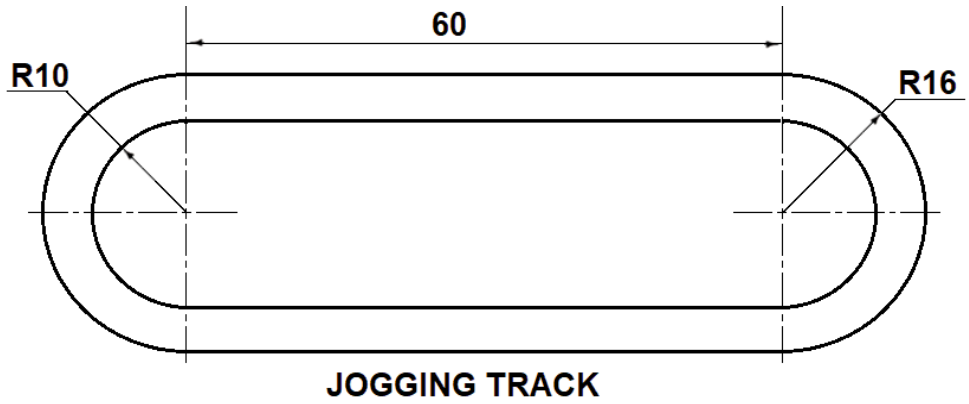

Figure 2

Question 4.

(a) Construct a Parabola by **TANGENT METHOD**. [10]

Given: - Base =140 mm and Length of axis = 85 mm.

(b) Draw a transverse common tangent to two circles of radii 50 mm and 35 mm with their centres 115 mm apart. [6]

Question 5.

Refer to **Figure 3** given below. It shows the Front View (F.V.) and the Left Hand Side View (L. H. S.V.) of an object in the **FIRST ANGLE METHOD** of projection. Draw the **OBLIQUE VIEW** when the receding axis is inclined at 45°to the horizontal. (Do not insert any dimensions.) [16]

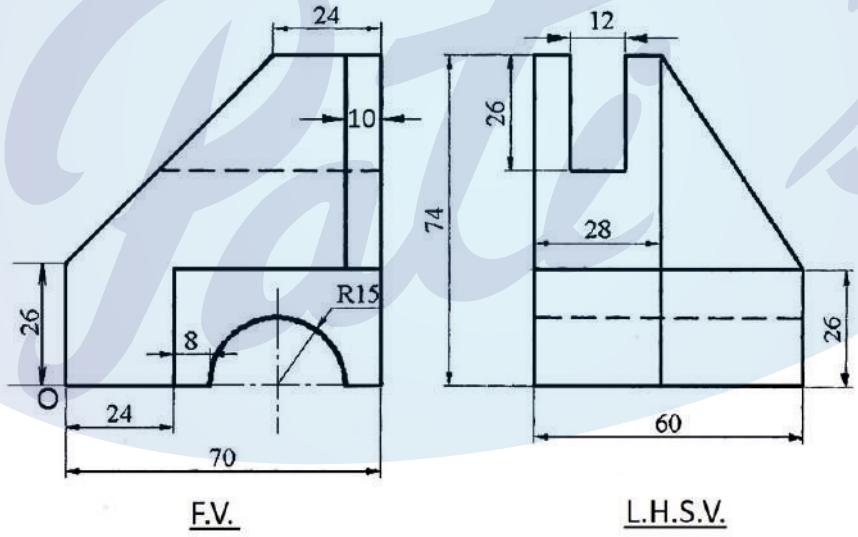

Figure 3

SECTION B (52 Marks)

*Answer any **two** questions from this Section.*

Question 6.

Refer to **Figure 4** given below. It shows the Front View (F.V.) and the Top View (T. V.) of an object in the **FIRST ANGLE METHOD** of projection. [26]

Draw its **ISOMETRIC VIEW**.

[Use scale 1 : 1]

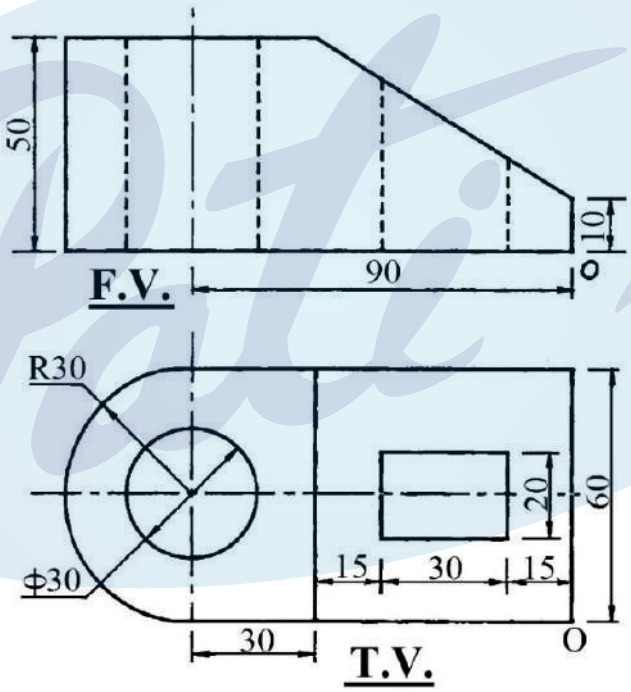

Figure 4

Question 7.

Refer to **Figure 5** given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right square pyramid in FIRST ANGLE METHOD of projection. Its axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). All sides of the base are equally inclined at 45° to the V.P. It is cut by a section plane whose horizontal trace (H.T.) makes an angle of 45° with the X – Y line. Using FIRST ANGLE METHOD of projection draw the: [26]

(a) Sectional Front View

(b) Top View

(c) Sectional L.H.S.V.

(d) Development of the lateral surface.

Given: Side of base = 40 mm

Length of axis = 70 mm

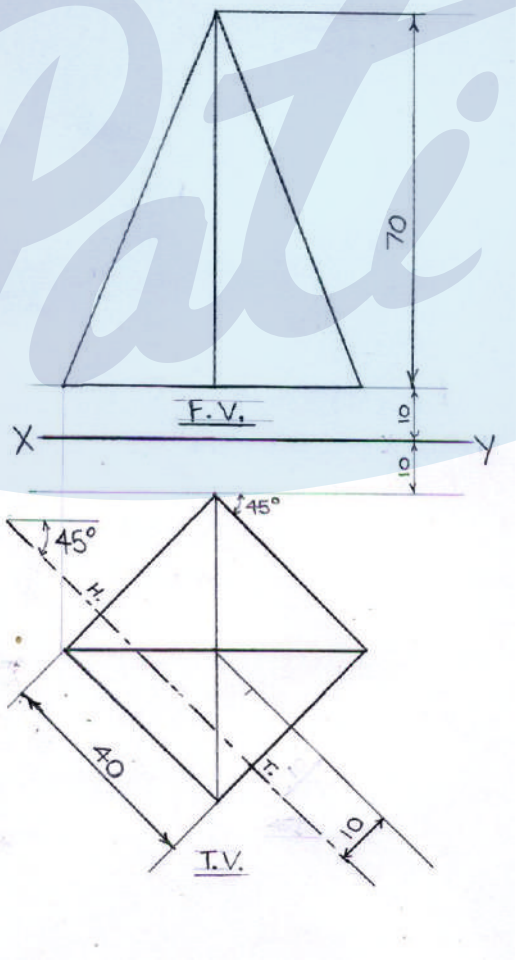

Figure 5

Question 8.

Refer to **Figure 6** given below. [26]

Using the **FIRST ANGLE METHOD** of projection, draw the:

(a) Half Sectional Front View [Section along A–B-C]

(b) Top View

(c) Left Hand Side View.

(Insert any 6 dimensions.)

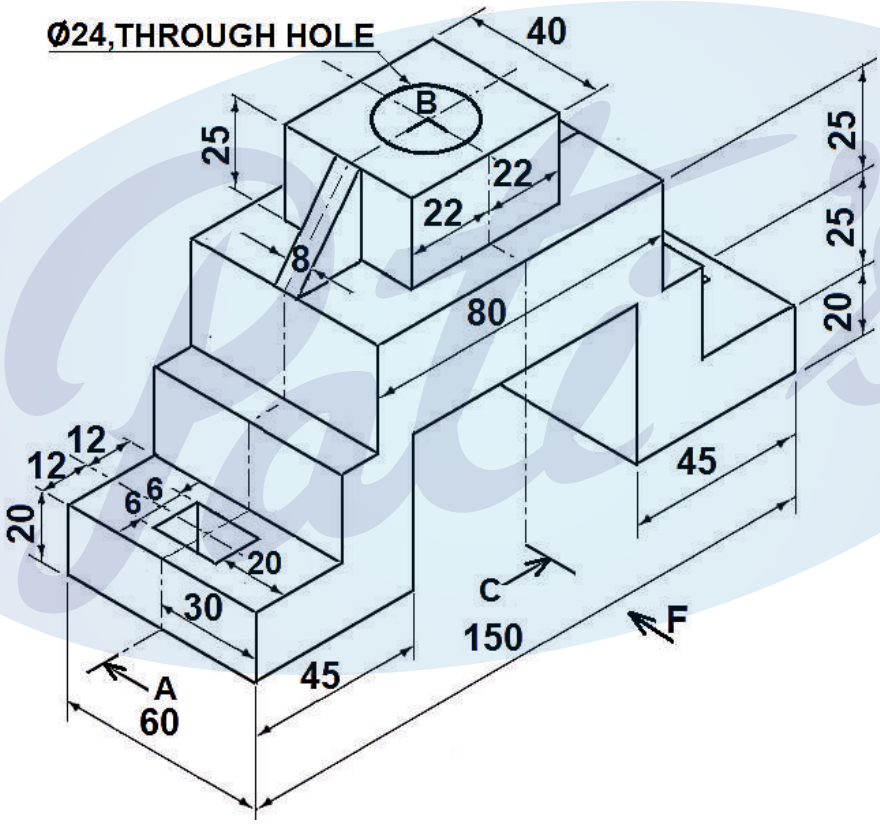

Figure 6

2019

TECHNICAL DRAWING APPLICATIONS

(Three hours)

*Answers to this paper must be written **neatly** on the paper provided separately.*

*You will **not** be allowed to draw/write during the first 15 minutes.*

This time is to be spent in reading the question paper.

The time given at the head of the paper is the time allowed for writing the answers.

*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B***

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for question or parts of questions are given in brackets [ ].

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1.

In a diagram a line measuring 12 mm was marked as 4 cm. Calculate the R.F. [16]

Using the same R.F. construct a DIAGONAL SCALE long enough to measure 3.61 dm.

Taking the measurement from the scale constructed, draw an equilateral triangle of side 3.61 dm.

Draw the incircle of this triangle.

Show the data and the working neatly.

Question 2.

Construct an ELLIPSE by the OBLONG METHOD. [16]

Given : Major Axis = 150 mm

Minor Axis = 100 mm.

Question 3.

(a) Draw a square of side 100 mm. Construct four equal circles inside the square so that each circle touches one side of the square and two other equal circles externally. [6]

(b) Refer to **Figure 1** given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right circular cylinder in the **FIRST ANGLE METHOD** of projection. Its axis is perpendicular to the horizontal plane and parallel to the vertical plane. Copy the given figure and draw its AUXILIARY TOP VIEW. [10]

The auxiliary plane X_1Y_1 is shown in the figure.

Given: Diameter of the base = 70 mm

Length of axis = 75 mm.

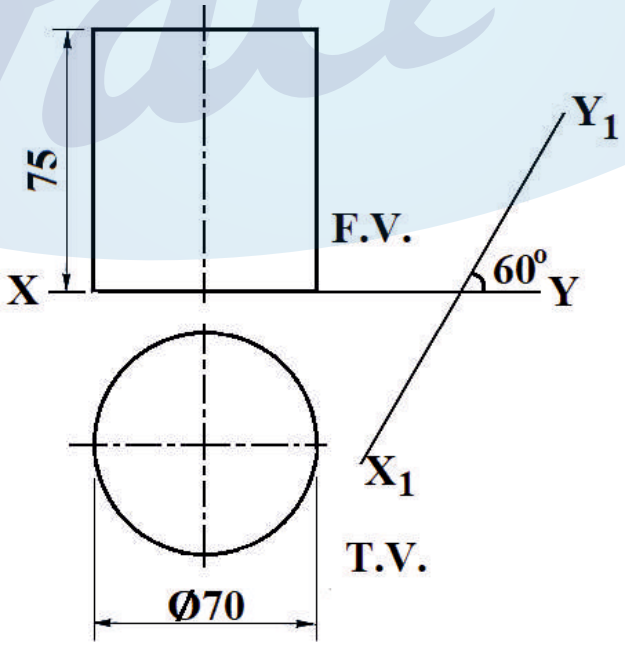

Figure 1

Question 4.

Refer to **Figure 2** given below. It shows the Front View (F.V.) and the Top View (T.V.) of an object in the **FIRST ANGLE METHOD** of projection. Draw the OBLIQUE VIEW when the receding axis is inclined at 45° to the horizontal. [16]

(Do not insert any dimensions.)

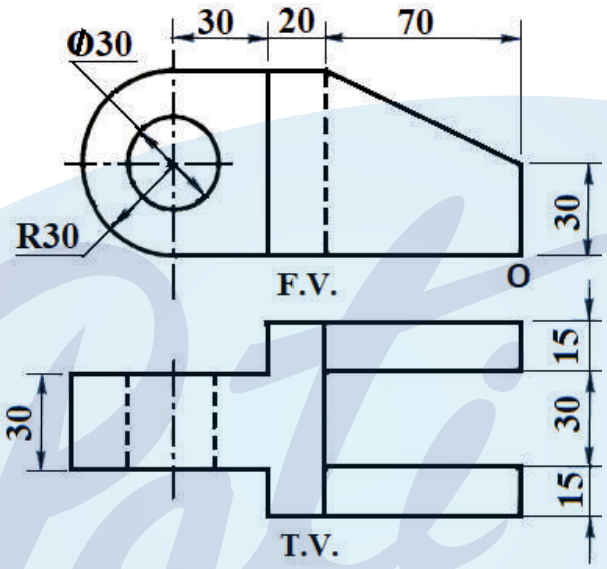

Figure 2

Question 5.

Refer to **Figure 3** given below. Copy the given template. [16]

(Insert any 4 dimensions.)

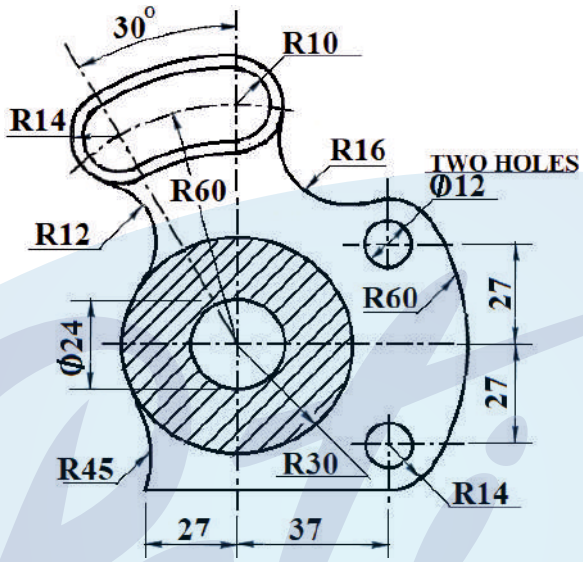

Figure 3

SECTION B (52 Marks)

*Answer any **two** questions from this Section.*

Question 6.

(a) Refer to **Figure 4** given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right hexagonal prism in the **THIRD ANGLE METHOD** of projection. [12]

Its axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). Two sides of its base are perpendicular to the V.P. The prism is cut by a cutting plane inclined at 60° to the H.P. and perpendicular to the V.P. The Vertical Trace (V.T.) of the cutting plane is shown in the figure. Draw the:

(i) Front View

(ii) Sectional Top View

(iii) Development of the Lateral Surface of the remaining **part P** of the Prism.

Given: Side of the base = 30 mm

Length of Axis = 70 mm.

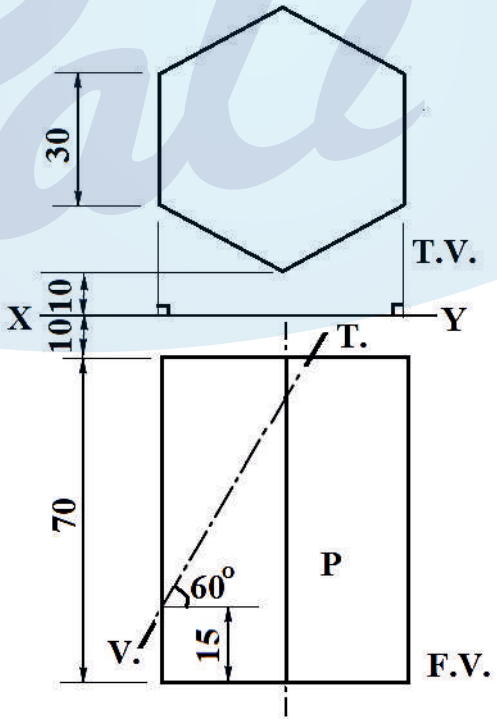

Figure 4

(b) Refer to **Figure 5** given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right square pyramid in the **THIRD ANGLE METHOD** of projection. [14]

Its axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). The pyramid is cut by a cutting plane inclined at 30° to the H.P. and perpendicular to the V.P. The Vertical Trace (V.T.) of the cutting plane is shown in the figure. Draw the:

(i) Front View

(ii) Sectional Top View

(iii) Sectional Left Hand Side View

Given: Side of the base = 40 mm

Length of Axis = 75 mm.

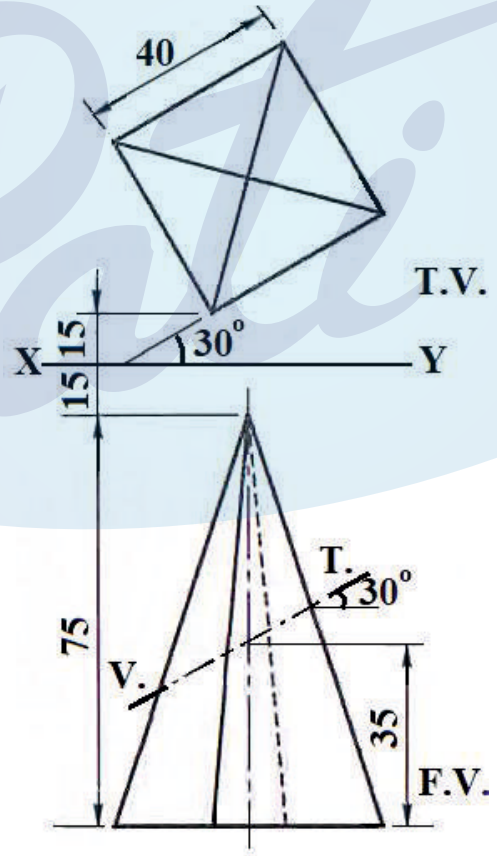

Figure 5

Question 7.

Refer to **Figure 6** given below. [26]

Copy the given ISOMETRIC VIEW.

(Do not insert any dimensions.)

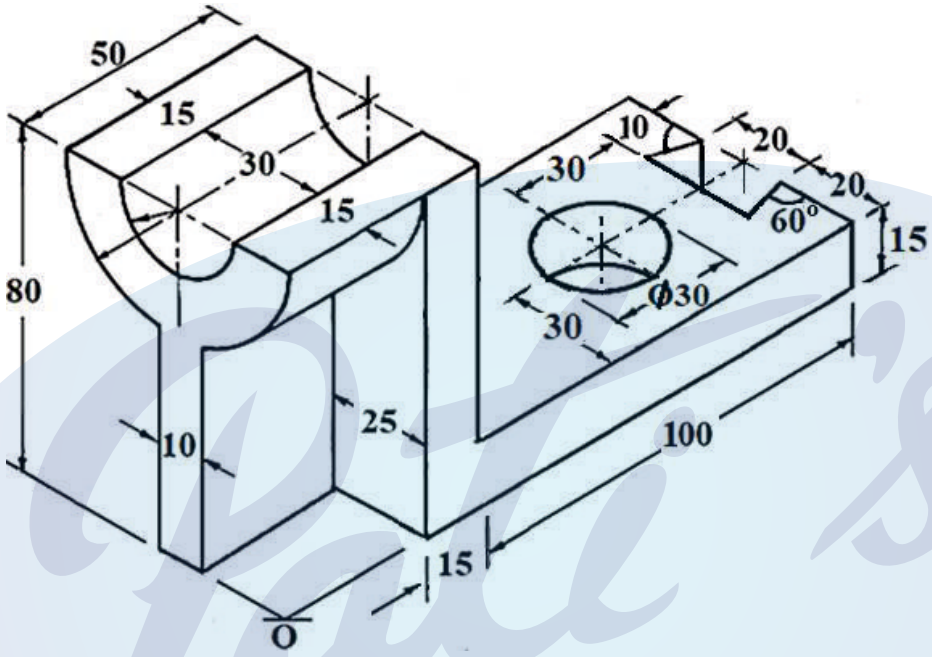

Figure 6

Question 8.

Refer to **Figure 7** given below. Using the **FIRST ANGLE METHOD** of projection, [26] draw the:

(i) Full Sectional Front View [section along A - A]

(ii) Top View

(iii) Left Hand Side View.

(Insert any 6 dimensions.)

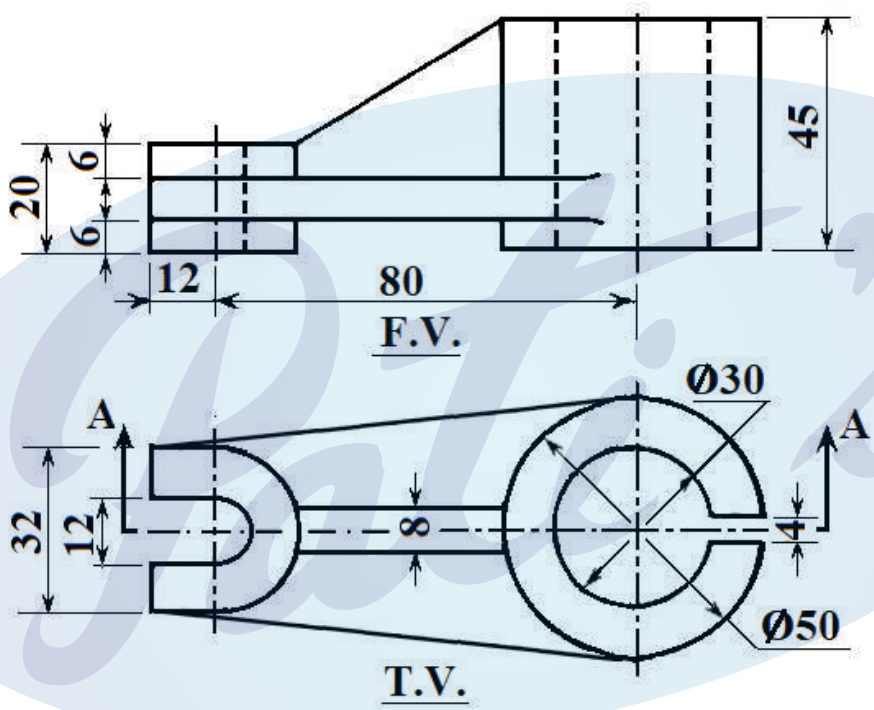

Figure 7

2018

TECHNICAL DRAWING APPLICATIONS

(*Three hours)*

*Answers to this paper must be written **neatly** on the paper provided separately.*

*You will **not** be allowed to draw/write during the first 15 minutes.*

This time is to be spent in reading the question paper.

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*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B***

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for question or parts of questions are given in brackets [ ].

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1.

(a) Construct an ELLIPSE by the CONCENTRIC CIRCLES METHOD. [10]

Given: Major Axis = 145mm

Minor Axis = 90mm.

(b) Draw a regular hexagon of side 60mm. Draw three equal circles inside the hexagon so that each circle touches two sides of the hexagon and two other circles externally. [6]

Question 2.

Draw the Front View and the Top View of a right hexagonal Pyramid whose axis is inclined at 30° to the horizontal plane (H.P.) and is parallel to the vertical plane (V.P.). One side of the base is inclined at 45° to the V.P. Its apex is nearer to the H.P. than its base. [16]

Given: Side of the base = 30mm

Length of Axis =75mm.

Use the **THIRD ANGLE METHOD** of projection.

Question 3.

Refer to **Figure 1** given below. Copy the given template. [16]

(Insert any 4 dimensions.)

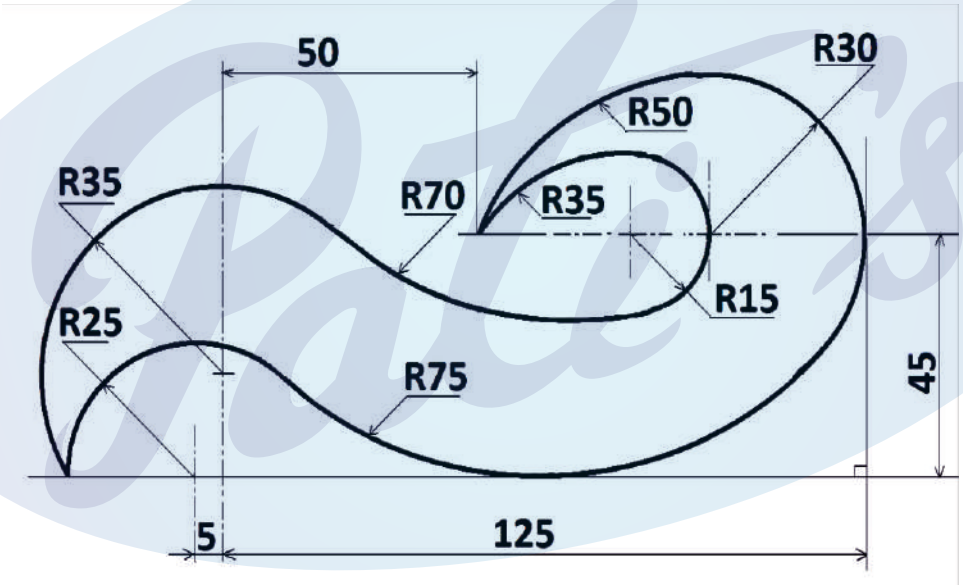

Figure 1

Question 4.

Construct a **PLAIN SCALE** long enough to measure the length = 4.3m. [16]

Given: R. F. = 1:50. Show the data and working neatly.

Taking the measurements from the scale constructed, draw a neat scale diagram of a regular pentagon ABCDE of side 2.6m.

In the same figure, construct geometrically a square PQRS so that

Area [Square PQRS] = Area [Pentagon ABCDE].

Question 5.

Refer to **Figure 2** given below. It shows the Front View (F.V.) and the Left Hand Side View (L.H.S.V.) of an object in the **FIRST ANGLE METHOD** of projection. Draw the **OBLIQUE VIEW** when the receding axis is inclined at 45° to the horizontal. [16]

Use scale 2:1.

(Do not insert any dimensions.)

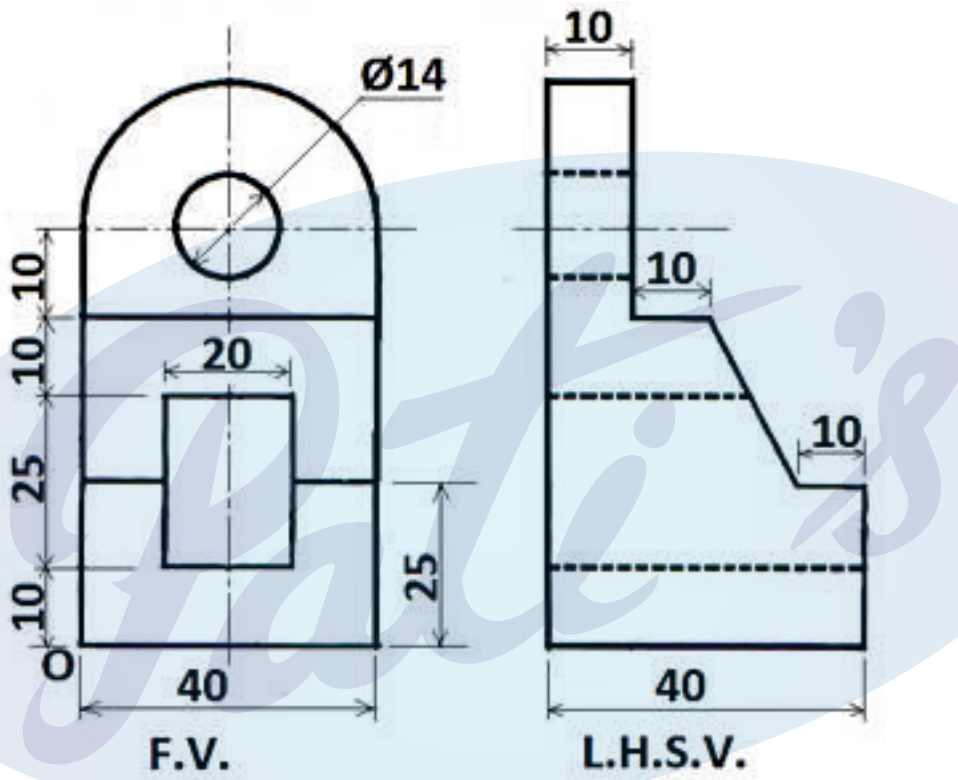

Figure 2

SECTION B (52 Marks)

*Answer any **two** questions from this Section.*

Question 6.

(a) Refer to **Figure 3** given below. It shows the front view (F.V.) and the right hand side view (R.H.S.V.) of a right square prism in the **FIRST ANGLE METHOD** of projection. Its axis is parallel to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). One side of its base is inclined at 30° to the H.P. [12]

The prism is cut by a cutting plane inclined at 45° to the H.P. and perpendicular to the V.P. The vertical trace (V.T.) of the cutting plane is shown in the figure.

Draw the :

(i) Front View

(ii) Sectional Top View.

(iii) Sectional Right Hand Side View.

Given : Side of the base = 35mm

Length of axis =70mm.

Use the **FIRST ANGLE METHOD** of projection.

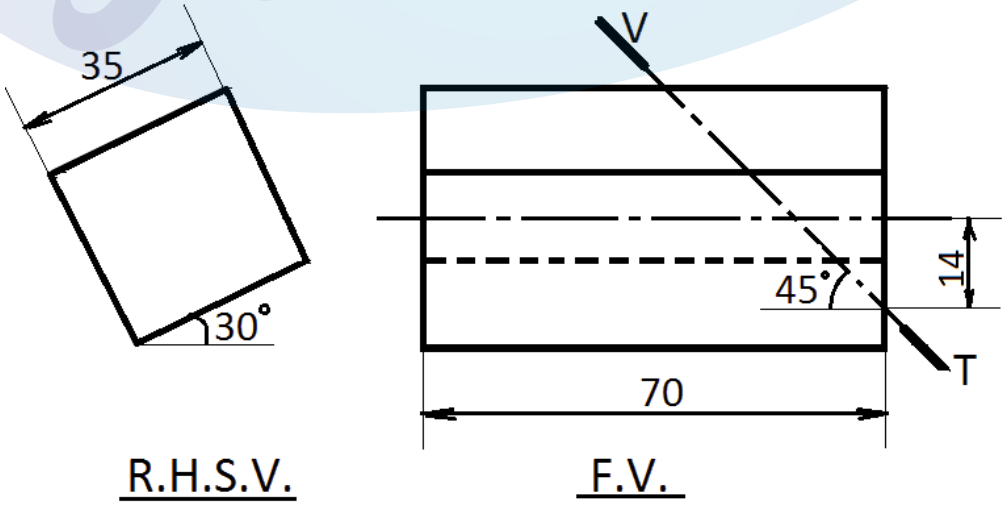

Figure 3

(b) Refer to **Figure 4** given below which shows the front view (F.V.) and the top view (T.V.) of a right pentagonal pyramid in the **FIRST ANGLE METHOD** of projection. Its axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). One side of its base is parallel to the V.P. The pyramid is cut by a cutting plane inclined at 45° to the H.P. and perpendicular to the V.P. The vertical trace (V.T.) of the cutting plane is shown in the figure. Draw the: [14]

(i) Front View

(ii) Sectional Top View

(iii) True Shape of Section.

Given: Side of the base = 35mm

Length of axis = 65mm

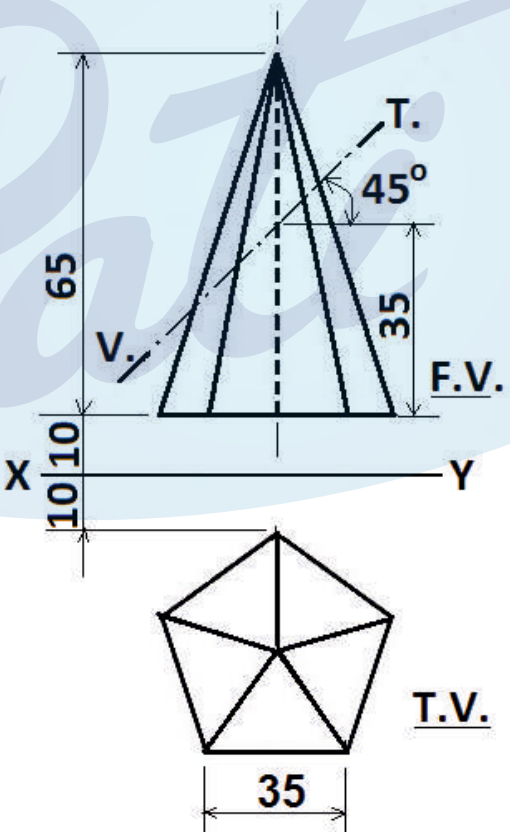

Figure 4

Question 7.

[26]

Refer to **Figure 5** given below.

Copy the given **Isometric View.**

(Do not insert any dimensions.)

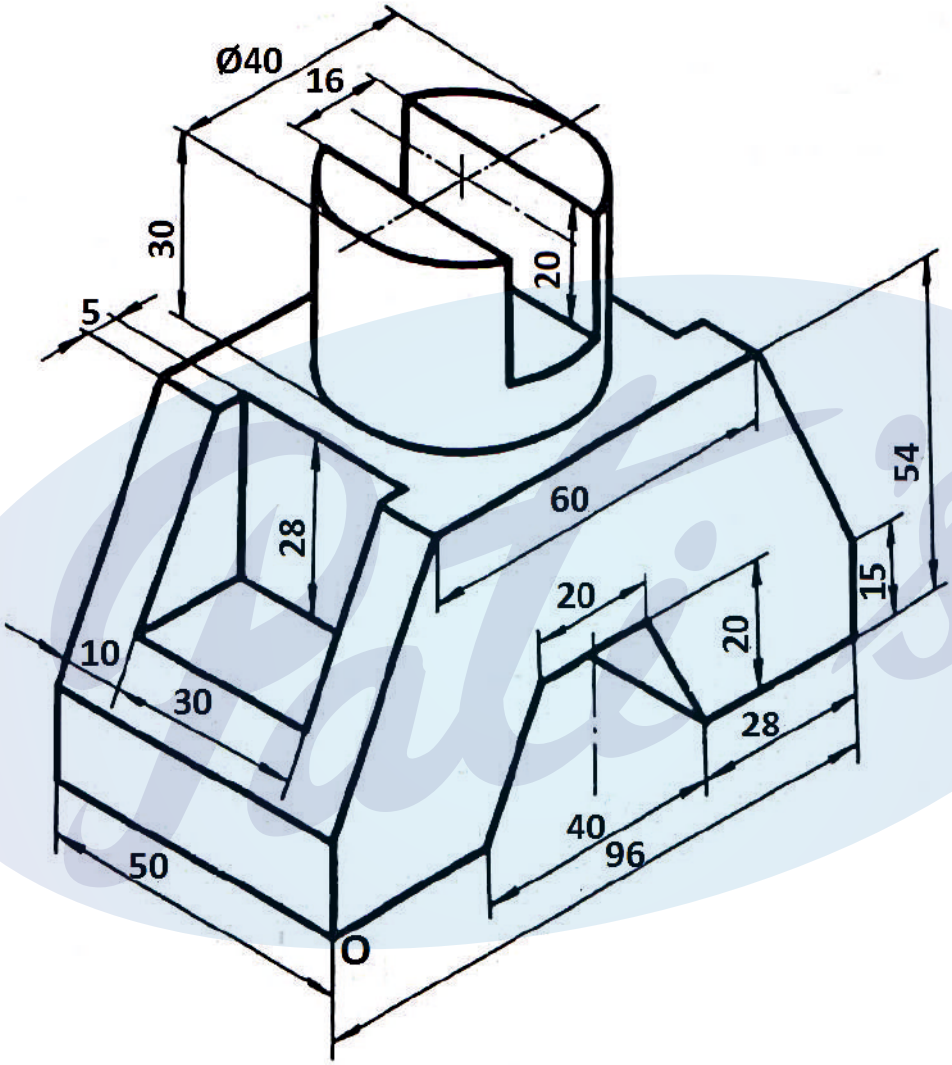

Figure 5

Question 8.

Refer to **Figure 6** given below. [26]

Using the **THIRD ANGLE METHOD** of projection, draw the:

(i) Full Sectional Elevation [Section along A – A]

(ii) Plan

(iii) Left hand side view.

(Insert any 4 dimensions.)

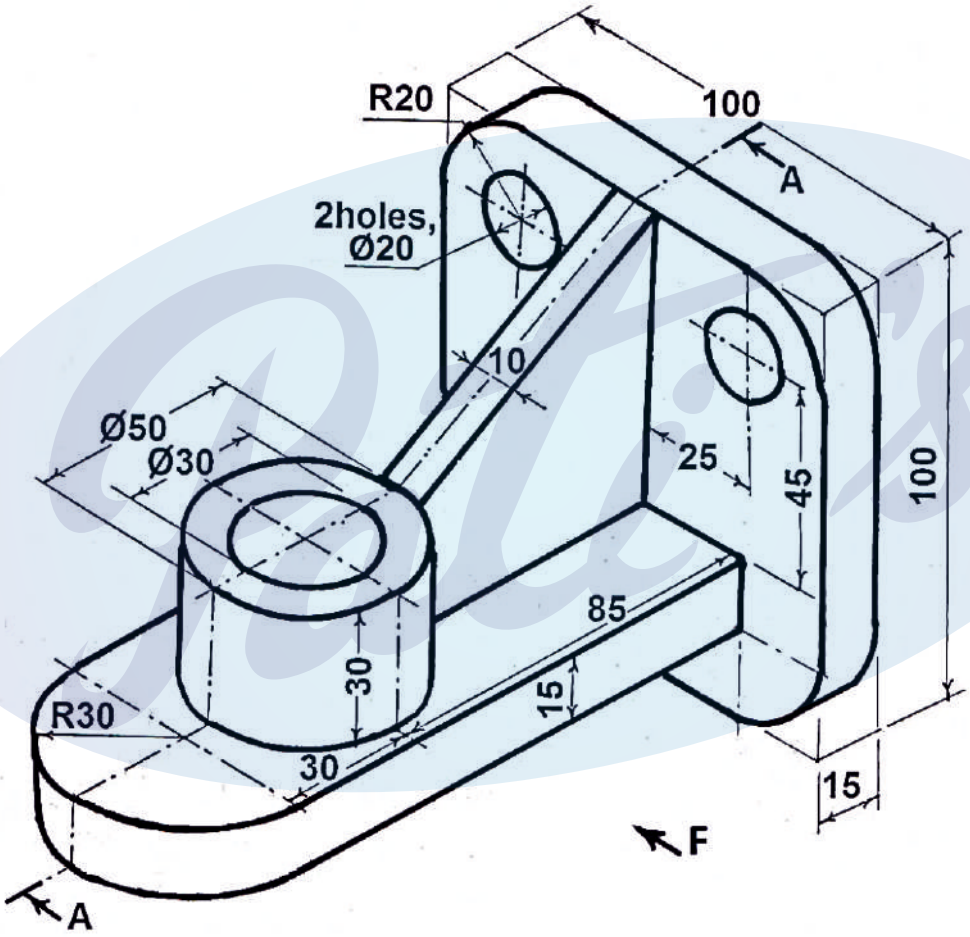

Figure 6

TECHNICAL DRAWING APPLICATIONS

(*Three hours)*

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Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

The intended marks for question or parts of questions are given in brackets [ ].

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1.

Refer to **Figure 1** given below. [16]

Copy the figure using the scale 1:1.

(Insert any 4 dimensions.)

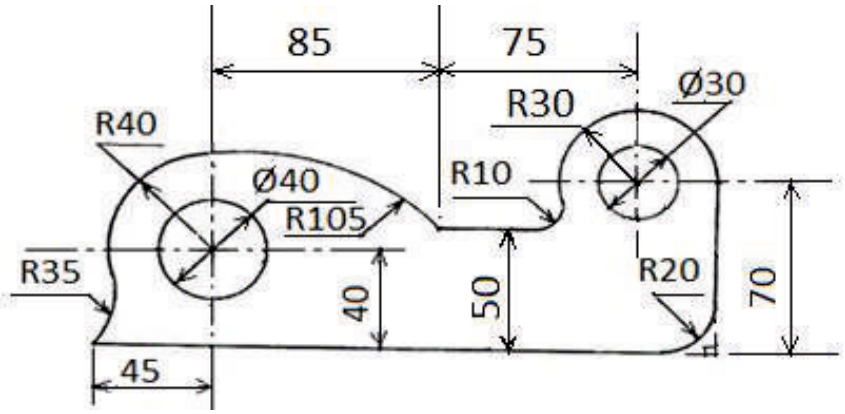


Figure 1

Question 2.

(a) Construct a parabola by the **RECTANGLE METHOD**. [10]

Given :- Base = 165mm

Length of axis =100mm.

(b) Draw a circle of radius = 35mm. [6]

Circumscribe it with a regular pentagon so that all the sides of the pentagon are tangents to the circle.

Question 3.

On a working drawing, a line measuring 30mm was dimensioned as 8m. Find R.F. Using the same R.F. construct a **PLAIN SCALE** long enough to measure up to 40m. Show the data and the working neatly. [16]

Taking the measurements from this scale, draw a transverse common tangent to two equal circles each of radius 9m and distance between their centres = 37m.

Question 4.

A right circular cone has its axis parallel to the horizontal plane and inclined at 45° to the vertical plane. Its base is nearer to the vertical plane than its apex. [16]

Draw the:

(a) Elevation

(b) Plan

Given: - Radius of the base = 25mm

Length of the axis = 70mm.

Use the **THIRD ANGLE METHOD** of projection.

Question 5.

Refer to **Figure 2** given below. It shows the elevation and the plan of an object in the **FIRST ANGLE METHOD** of projection. [16]

Draw the **OBLIQUE VIEW** when the receding axis is inclined at 45° to the horizontal.

(Do not insert any dimensions.)

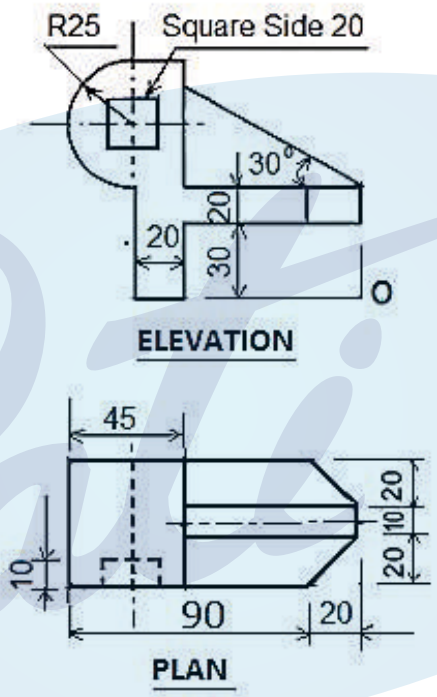


Figure 2

SECTION B (52 Marks)

*Answer any **two** questions from this Section.*

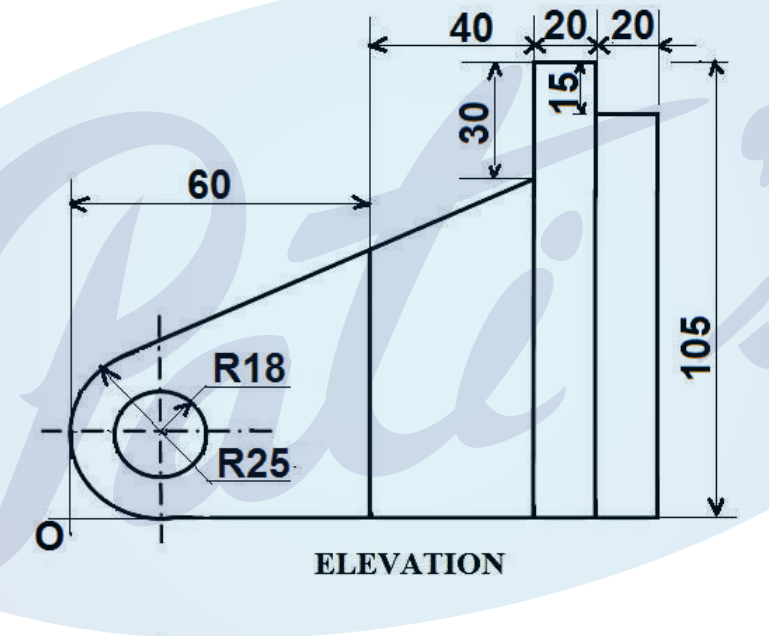
Question 6.

Refer to **Figure 3** given below. It shows the elevation and the plan of an object in the **FIRST ANGLE METHOD** of projection. [26]

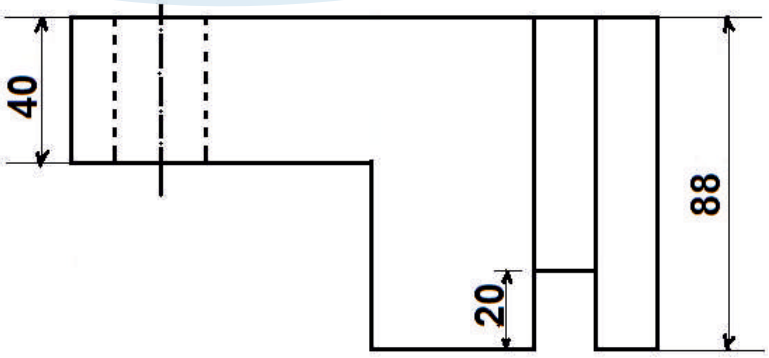
Draw its **ISOMETRIC VIEW**.

Use scale 1:1.

(Do not insert any dimensions.)



ELEVATION



PLAN

Figure 3

Question 7.

Refer to **Figure 4** given below. Using the **FIRST ANGLE METHOD** of projection, draw the:

(i) Half Sectional Front View [section along A-B-C] [10]

(ii) Top View [8]

(iii) Left Hand Side View. [8]

(Insert any 8 dimensions.)

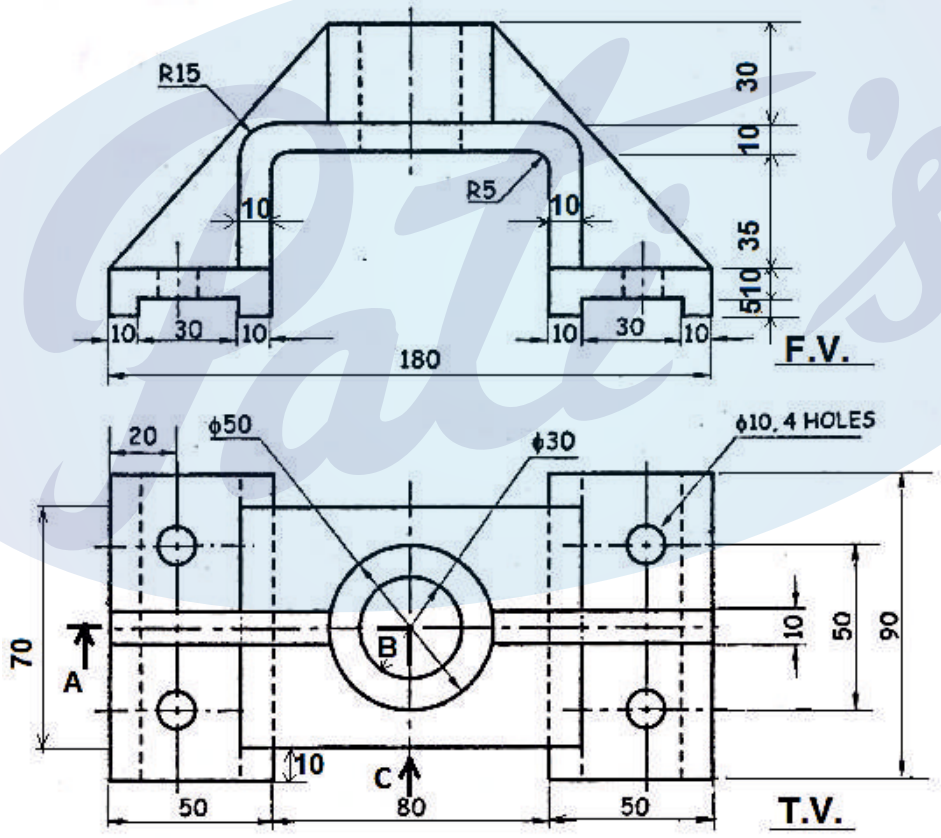


Figure 4

Question 8.

Refer to **Figure 5** given below. It shows the front view and the top view of a right circular cylinder in the **THIRD ANGLE METHOD** of projection. Its axis is perpendicular to the horizontal plane and parallel to the vertical plane. It is cut by a cutting plane inclined at 60° to the horizontal plane and perpendicular to the vertical plane. The vertical trace (V.T.) of the cutting plane is shown in the figure. Draw the :

(i) Front View [3]

(ii) Sectional Top View [6]

(iii) True Shape of Section [7]

(iv) Development of Lateral Surface of the remaining part P of the cylinder. [10]

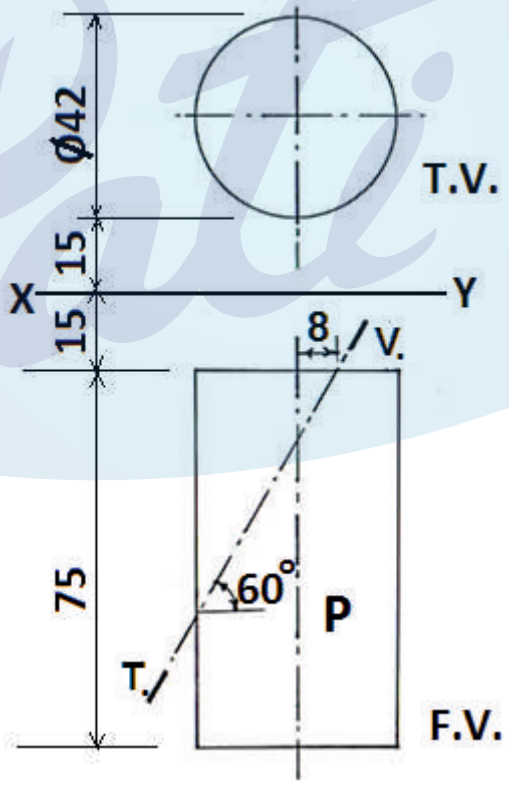


Figure 5

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