Set A

SOMAIYA VIDYAVIHAR UNIVERSITY

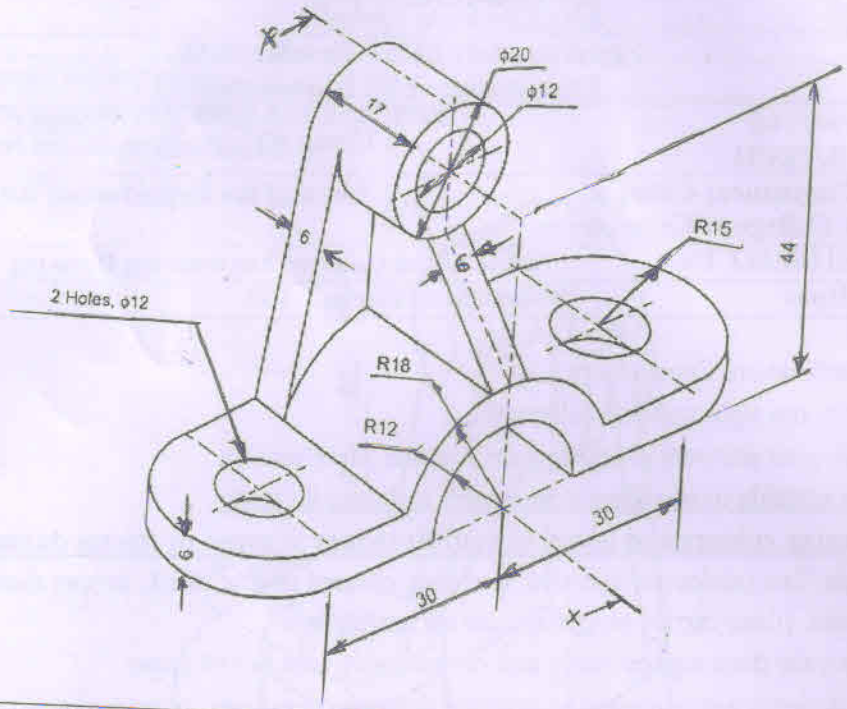
20-12-2023 (M)

Semester: July 2023 – October 2023 Examination: ESE Examination		
Programme code: 06 **Programme: B.TECH**	**Class: FY**	**Sem I (SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the Department: All**	
Course Code:116U06C105	**Name of the Course: Engineering Drawing**	
Duration : 3 Hour	**Maximum Marks : 100**	

Instructions:

- All Questions are Compulsory.
- Figures to the right indicate full marks.
- Illustrate your answers using figures, sketches, diagrams etc.
- Assume suitable dimensions if necessary and state it clearly.
- **Avoid using colours and layers in your drawings to avoid problems during printing.**
- Line type, line thickness, text size, text font, content of title block, proper dimensions etc. at appropriate place carries weightage during assessment.
- Arrange your drawings properly and on minimum number of pages.
- All the students are requested to save the drawings regularly. In case of any hardware or software problems, extra time will not be allotted to any student for unsaved work. Any kind of electronic gadgets capable of memory storage such as pen drive, mobile etc. are not permitted.

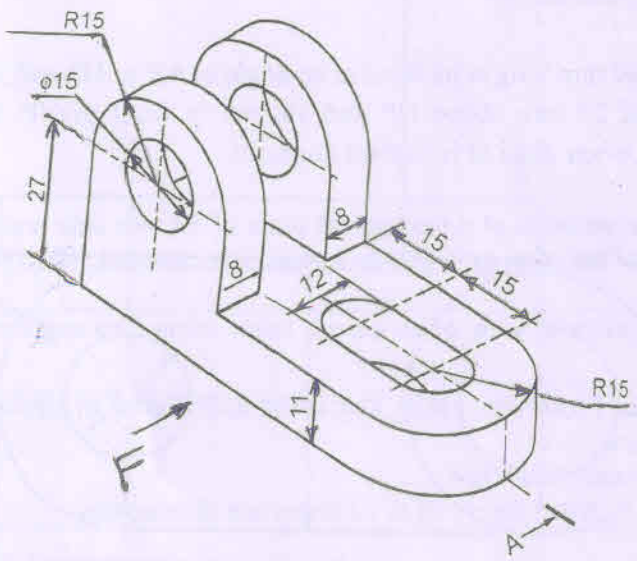
Question No.		Max Marks
Q1 (A)	Solve any **TWO** of the following a) The straight line AB of length 70 mm and is inclined at an angle of 30° with HP and 40° with VP. The end A is 15 mm above H.P and in front V.P, determine the inclinations of FV and TV with XY line if point B is in the first quadrant. b) A line CD 80 mm long is inclined at an angle of 40° to HP and 30° to VP. Its end C is 25 mm above HP and 10 mm in front of VP. Draw the projections when point D is in third quadrant. c) Draw the projections of a pentagonal plate of 30 mm side resting in HP on the one of the edge such that its surface is inclined at 50° to HP.	20
Q2	Figure shows pictorial view of an object. Draw using first angle method of projections, i) Sectional Front view along X-X in the direction of an arrow; ii) Top View; iii) Right Hand Side View Note: Insert 10 to 12 important dimensions	20

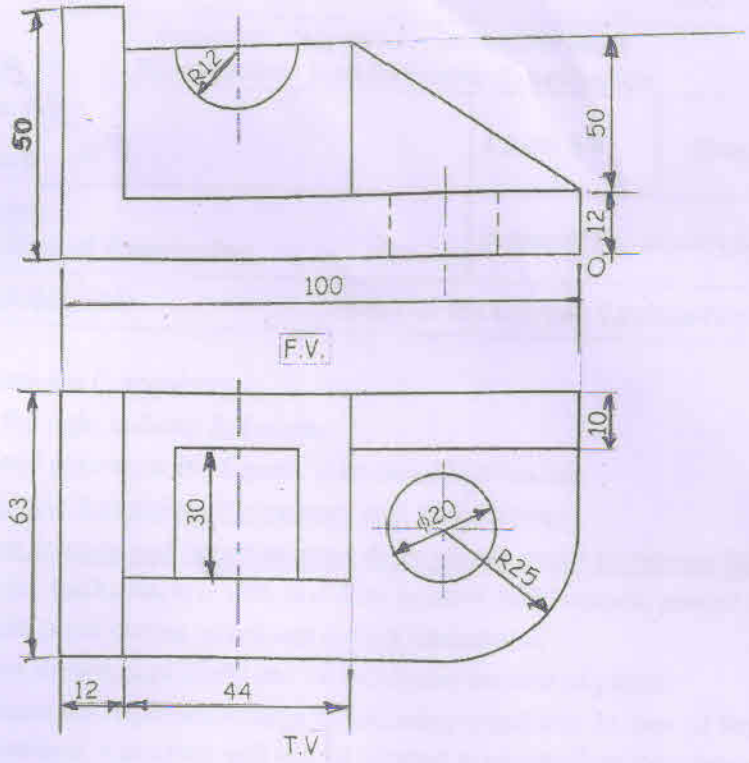


Q3 Solve any **TWO** of the following 20

a) A square plate with side 50 mm is resting on VP on one of its corner. The lamina is seen as a rhombus in the FV with one of its diagonal measuring 54 mm. Draw projections of a plane and its angle with VP.

b) Figure shows pictorial view of an object. Draw using first angle method of projections
   i) Front view in the direction of arrow F.
   ii) Top View
   Note: Insert 6 to 8 important dimensions



	c) Figure shows F.V. and T.V. of an object. Draw isometric view about an origin 'O'.  	
Q4	A hexagonal prism of 30 mm edge of base and 60 mm length of an axis is resting on one of its edges of the base. The axis makes an angle of 50° with HP. Draw the projections if the TV of an axis is inclined at 30° to the V.P. **OR** A right circular cone of base circle 60 mm axis height 70 mm is resting on one of its generator in HP and the TV of the axis is inclined at 30° to VP. Draw the projections of cone.	20
Q5	A hexagonal pyramid of side of base 35 mm and axis 65 mm has its base on H.P. such that two of its sides of base perpendicular to V.P. It is cut by a section plane perpendicular to the H.P. and inclined at 30° to the V.P, passing through the point on axis at a distance of 15 mm away from the axis of the pyramid. Draw the sectional FV, TV and true shape of section. Draw the development of lateral surface of retained pyramid. **OR** A cylinder of base 60 mm diameter and axis 80 mm long is resting on its base on HP. It is cut by a section plane perpendicular to V.P. and inclined to HP at 30° and passing through the mid-point of the axis. Draw the sectional top view, front view and true shape of the section. Also draw the development of the lateral surface.	20

Set A

SOMAIYA VIDYAVIHAR UNIVERSITY

20·12·2023(M)

Semester: July 2023 – December 2023		
Maximum Marks: 50	**Examination: End-Semester Examination**	**Duration: 2 Hrs.**
Programme code: 06 **Programme: BTech**	**Class: FY**	**Semester: (SVU 2023)**
Name of the College: **K. J. Somaiya College of Engineering**	**Name of the department: All**	
Course Code: 216U06C105	**Name of the Course: Engineering Drawing**	

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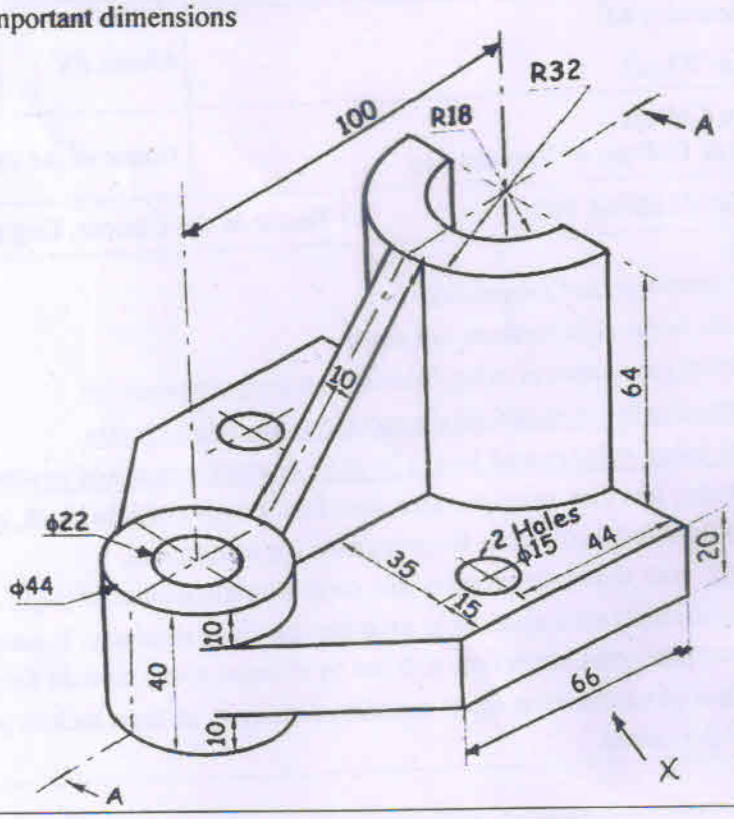
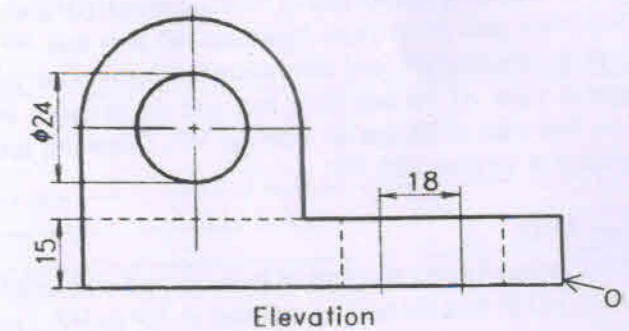
Que. No.	Question Statement	Max. Marks
Q.1	Attempt any **ONE**	10
i)	A line AB 70 mm long has its end A 10 mm above HP and 15 mm in front of VP. Its top view and front view measures 60 mm and 40 mm respectively. Draw the projections of line and determine its inclinations with HP and VP.	
ii)	A pentagonal plate of 30 mm side has one of its sides in VP. The corner opposite to this side is 20 mm in front of VP. Draw the projections and find the inclination of surface with VP.	
Q.2	Attempt any **ONE**	10
i)	A pentagonal prism having an edge of base 25 mm axis height 60 mm has one of its corners in HP and the axis is inclined at 30° to HP. Draw the projection of the solid.	
ii)	A cone of 50 mm diameter and axis length 70 mm is resting on one of its generators in HP. Draw the projections of cone.	
Q.3	Attempt any **ONE**	10
i)	A square pyramid of 30 mm edges of base and 50 mm height is resting on its base with one of the edges of base perpendicular to the VP. It is cut by an AIP in such a way that it bisects the axis and is inclined at 45° to the HP. Draw FV and sectional TV. Also develop lateral surface of retained pyramid	
ii)	A cylinder of 56 mm diameter and axis 60 mm long stands with its circular base on HP. A section plane perpendicular to VP and inclined at 45° to HP cuts the axis at a point 25 mm from its top end. Draw FV and sectional TV. Also draw the development of lateral surface of retained cylinder.	

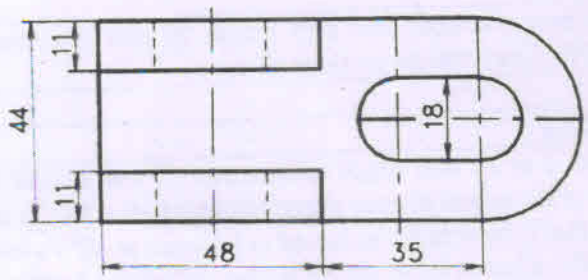
Q.4	Attempt the following	10
	Draw sectional FV along A-A and TV Insert important dimensions	



Q.5	Attempt the following	10
	Draw an isometric view of given object with respect to origin 'O'	



Elevation



Plan

Set B

SOMAIYA VIDYAVIHAR UNIVERSITY

20·12·2023 (FN)

Semester: July 2023 – December 2023 **Maximum Marks: 50** **Examination: End-Semester Examination** **Duration: 2 Hrs.**		
Programme code: 06 **Programme: BTech**	**Class: FY**	**Semester: (SVU 2023)**
Name of the College: **K. J. Somaiya College of Engineering**	**Name of the department: All**	
Course Code: 116U06C105	**Name of the Course: Engineering Drawing**	

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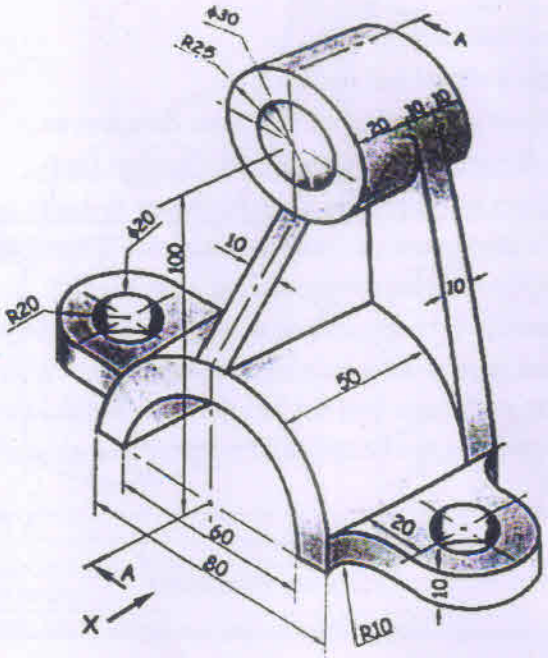
Que. No.	Question Statement	Max. Marks
Q.1	Attempt any **one**	**10**
i)	The FV of a line AB is 60 mm long and is inclined at 60° to the XY line. The end point A is 12 mm above the HP and 25 mm in front of the VP. Draw the projections of line if it is inclined at 45°to the HP and is in the first quadrant. Find the true length and true inclinations of a line with the VP.	
ii)	A Hexagonal plane of 30 mm side has an edge in the VP. The surface of the plane is inclined at 45° to the VP. Draw its projection.	
Q.2	Attempt any **one**	**10**
i)	A square prism, side of base 40 mm and height 60 mm is resting on one of the corner of the base on the HP. The longer edge containing the corner is inclined at 50° to the HP. Draw the projections of a prism.	
ii)	A hexagonal pyramid of base side 30 mm and axis 60 mm has one of its slant edges on the HP. Draw its projection.	
Q.3	Attempt any **one**	**10**
i)	A square pyramid, base 30 mm and axis 40 mm long stands vertically on the HP with the edges of a base equally inclined to the VP. It is cut by the section plane perpendicular to the VP, inclined at 45° to the HP and passing through the point on the axis 25 mm from the apex. Draw the FV, sectional TV. Also draw the development of lateral surface assuming apex part to be removed.	

ii)	A cylinder, 30 mm diameter and 50 mm long stands vertically on its circular base. It is cut by an AIP inclined at 45° to the HP which bisects an axis of a cylinder. Draw the sectional top view and front view. Also draw the development of lateral surface of truncated cylinder.	
Q.4	Attempt the following	10
	Draw sectional FV along A-A and TV Insert important dimensions  	
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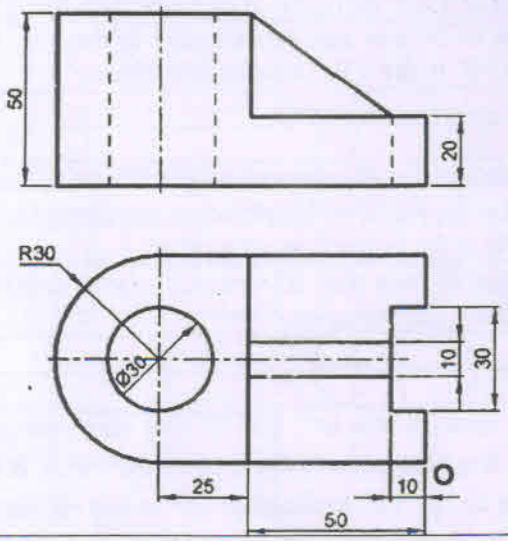
	Draw an isometric view of given object with respect to origin 'O'  	

Set C

SOMAIYA VIDYAVIHAR UNIVERSITY

20.12.2023 (M)

Semester: July 2023 – December 2023		
Maximum Marks: 50	**Examination: End-Semester Examination**	**Duration: 2 Hrs.**
Programme code: 06		
Programme: BTech	**Class: FY**	**Semester: (SVU 2023)**
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Course Code: 216U06C105	**Name of the Course: Engineering Drawing**	

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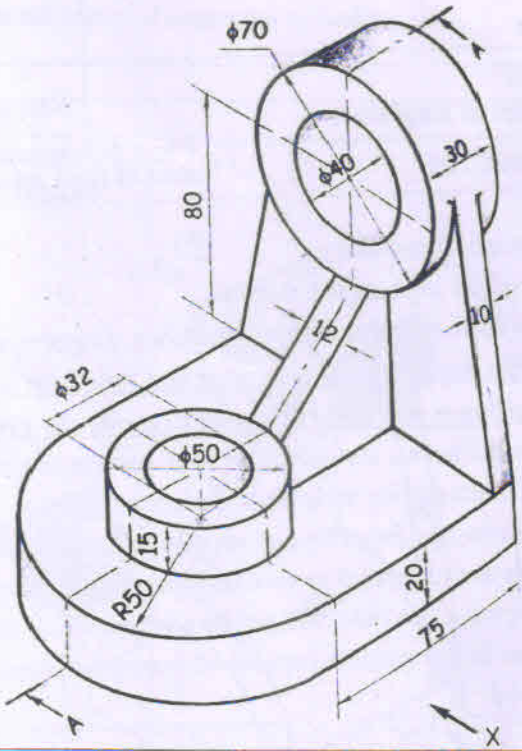
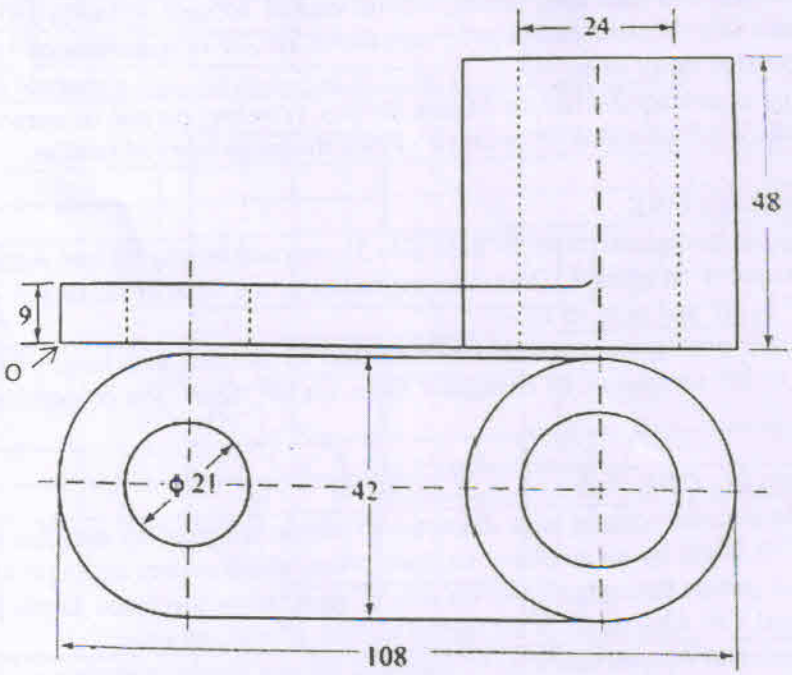
Que. No.	Question Statement	Max. Marks
Q.1	Attempt any **ONE**	10
i)	A line AB 100 mm long having inclinations of 30° and 45° with HP and VP respectively. It's one end A is 15 mm above HP, 20 mm in front of VP. Draw the projections of line.	
ii)	A regular pentagonal lamina of side 20 mm, is resting on one of corners in the HP and it is inclined at 45° with HP. Draw the projections of lamina.	
Q.2	Attempt any **ONE**	10
i)	A regular hexagonal prism of base side 35 mm and height 80 mm rests on one of its corner on ground. Draw the projection of the solid if its axis is inclined at 45° to HP and parallel to VP.	
ii)	A regular pentagonal pyramid has base side 40 mm and axis height 85 mm. It rests in HP on one of its triangular faces on HP. Draw the projection of the solid.	
Q.3	Attempt any **ONE**	10
i)	A right circular cone of base diameter 40 mm axis height 50 mm has its base in HP. It is cut by an auxiliary inclined plane which makes an angle 45° with HP and passes through a point on axis 20 mm below the apex. Draw FV and sectional TV. Also develop the lateral surface of retained cone.	
ii)	A cylinder of 60 mm diameter of base and 80 mm height is resting on its base on HP. It is cut by a section plane normal to VP and inclined to HP such that it passes through the extreme left bottom corner and extreme right top corner of the elevation. Draw FV and sectional TV. Also draw the development of lateral surface of retained cylinder.	

Q.4	Attempt the following	10
	Draw sectional FV along A-A and LHSV Insert important dimensions	



Q.5	Attempt the following	10
	Draw an isometric view of the given object with respect to origin 'O'