15.2.2023 (M)

SOMAIYA VIDYAVIHAR UNIVERSITY

Set A

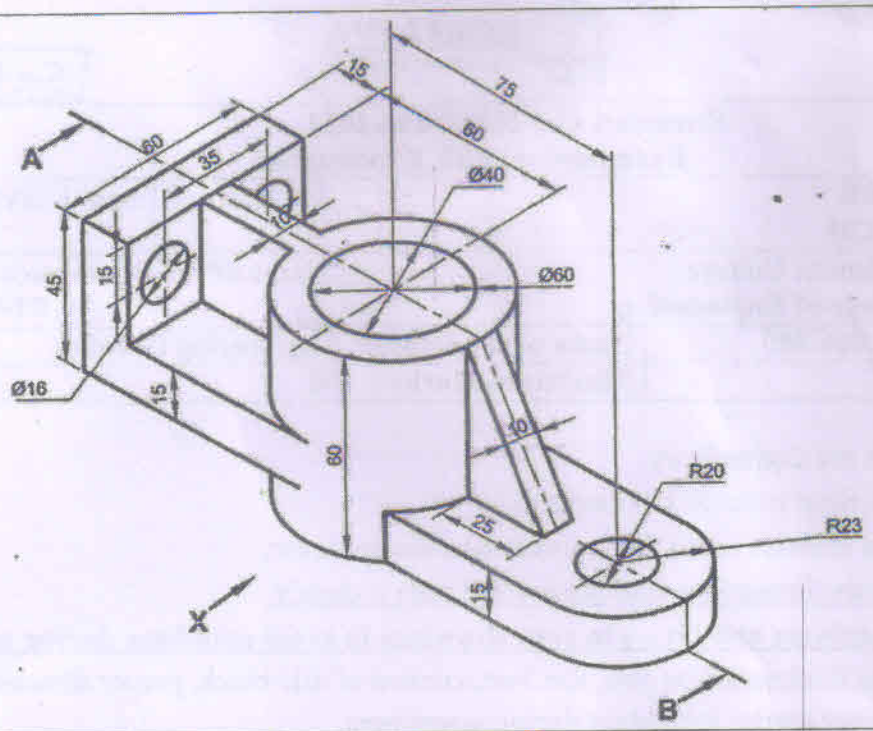
Semester: Oct 2022 – Jan 2023 **Examination: ESE Examination**		
Programme code: 06 **Programme: B.TECH**	**Class: FY**	**Sem I (SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the Department** COMP / IT	
Course Code:116U06C105	**Name of the Course: Engineering 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.

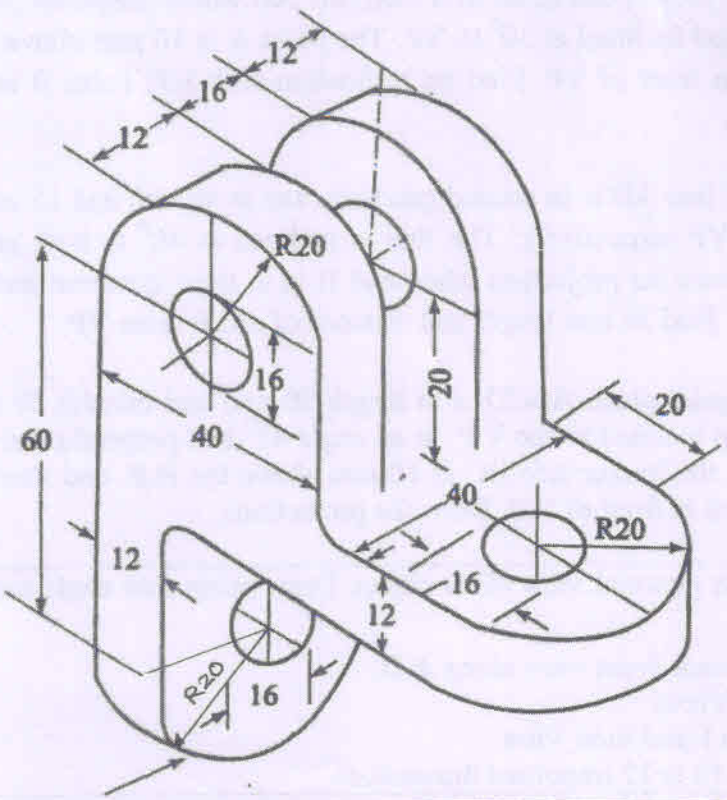
Question No.		Max Marks
Q1 (A)	Solve any **TWO** of the following a) Draw the projections of 80 mm long line AB which measures 50 mm in its plan and inclined at 30^0 to VP. The point A is 10 mm above HP and 20 mm in front of VP. Find its inclination with HP. Point B is in first quadrant. b) End A of line AB is in second quadrant, and is 40 mm and 15 mm from HP and VP respectively. The line is inclined at 40^0 to both reference planes. Draw its projection when end B is in third quadrant and 45mm from HP. Find its true length and distance of end B from VP. c) A rectangular plane ABCD with length 50 mm and breadth 30 mm has its surface inclined to the V.P. at an angle 45^0 and perpendicular to H.P. such that the longer side BC is 10 mm above the H.P. and shorter side AB 20 mm in front of V.P. Draw the projections.	20
Q2	Figure shows pictorial view of an object. Draw using first angle method of projections, i. Sectional Front view along A-B; ii. Top View; iii. Right Hand Side View Note: Insert 10 to 12 important dimensions	20



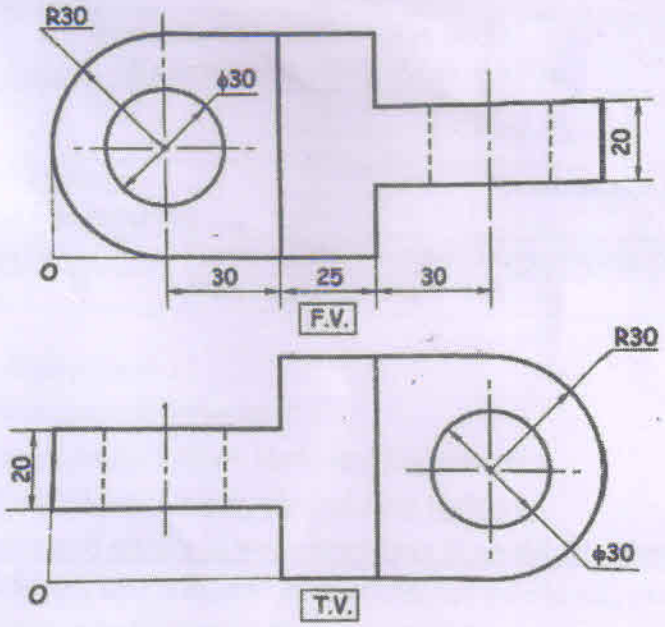
Q3	Solve any **TWO** of the following	20

a) A hexagonal lamina of side 25 mm is resting in VP on one of its corners. If the diagonal passing through that corner makes an angle of 30° to the VP draw the projections of lamina.

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



X

	c) Figure shows F.V. and T.V. of an object. Draw isometric view about an origin 'O'.  	
Q4	A right regular pentagonal pyramid of 50 mm base sides and 90 mm height is lying on one of its triangular surface on HP such that top view of axis s inclined at an angle of 45° to VP. Draw projections of pyramid. **OR** A cone of 60 mm diameter and axis 66 mm long is lying on one of its generators in VP with FV of an axis is inclined at 50^0 with HP. Draw projections considering apex is nearer to the observer.	20
Q5	A cylinder, 30 mm diameter and 50 mm long stand 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 FV, sectional TV and true shape of section. Draw the development of lateral surface of truncated cylinder. **OR** A hexagonal prism with 28 mm sides of base and 65 mm axis height is resting its base on HP and has one side of base perpendicular to VP. The section plane inclined at 55° to HP cuts the prism 20 mm above the base. Draw the FV sectional TV and true shape of section. Also draw the development of lateral surface of the retained prism.	20

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Set B

Semester: Oct 2022 – Jan 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 : COMP / IT	
Course Code: 116U06C105	Name of the Course: Engineering Drawing	
Duration : 3 Hour	Maximum Marks : 100	

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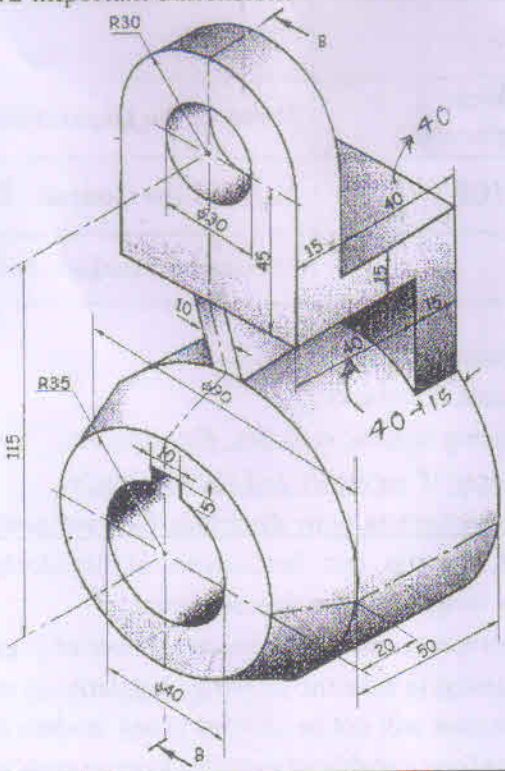
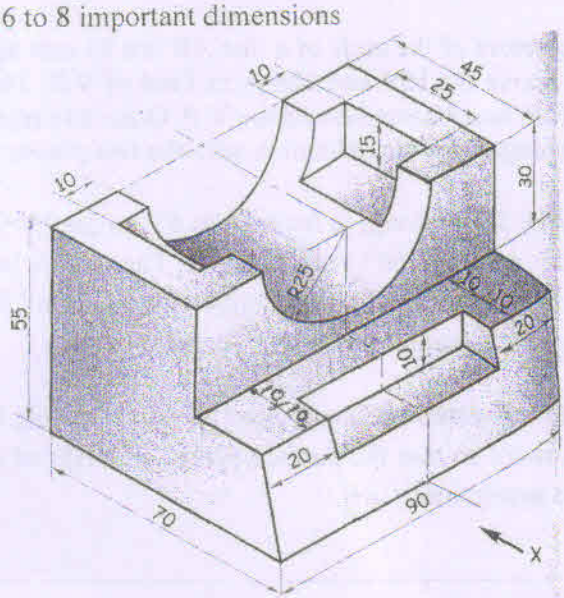
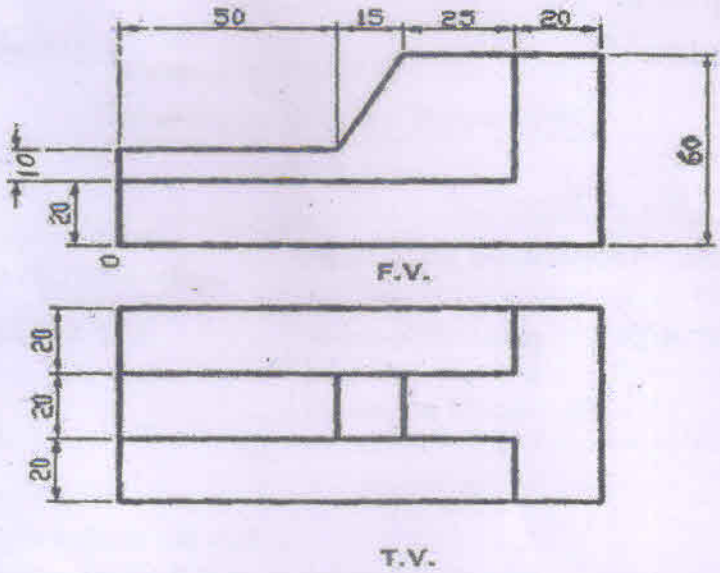
Question No.		Max Marks
Q1	Solve any **TWO** of the following	
	(a) The projectors of the ends of a line AB are 50 mm apart. The end A is 20 mm above the H.P and 30mm in front of V.P. The end B is10 mm below H.P. and 40 mm behind the V.P. Draw its projections; determine the true length and its inclination with the two planes.	10
	(b) A line AB, 90mm long, is inclined at 45° to the H.P. and its top view makes an angle of 60° with the V.P. The end A is in the H.P. and 12 mm in front of VP. Draw its projections and find its true inclination with the V.P. Assume end B in 3rd quadrant.	10
	(c) A pentagonal plane lamina of sides 30 mm is resting on the HP on one of its corners so that the surface makes an angle of 60° with the HP. Draw its projections.	10

Q2	Figure shows pictorial view of an object. Draw using first angle method of projections, Draw a) Sectional Front view along B-B; b) Top View; c) Left hand Side View. Note: Insert 10 to 12 important dimensions  	20
Q3	Solve any **TWO** of the following (a) A thin square plate ABCD of 45 mm edges is having its corner A on HP with the diagonal AC inclined at 35° to the HP. Draw the projections of plate ABCD. (b) Figure shows pictorial view of an object. Draw using first angle method of projections i. Front view along X ii. Top View Note: Insert 6 to 8 important dimensions  	10 10

	(c) Figure shows F.V. and T.V. of an object. Draw isometric view about an origin 'O'.  	10
Q4	A square pyramid of 40 mm base sides and height 70 mm is lying on one of its slant on the HP, and top view of the slant edge is inclined at an angle of 45° to the VP. Draw the projections of the pyramid when the apex is nearer to VP. **OR** A pentagonal prism of base side 30 mm and height 60 mm rests on one of its base edge on the HP and the same base edge is inclined at 30° to the VP. Its axis is inclined at 45° to the HP. Draw its projections.	20 20
Q5	A hexagonal pyramid 40 mm edge of base, 70 mm axis length rests vertically on its base on HP with two base edges perpendicular to VP. It is cut by a section plane perpendicular to VP and inclined at 60° to HP, such that it passes through a point on axis 40 mm above the base. **Draw** - Front View, Sectional Top View and True Shape of the section. Also draw development of the lateral surface of major part of the pyramid. **OR** A cone base diameter 50 mm and axis 60 mm is resting on its base on the HP. It is cut by a section plane inclined at 60° to VP and passes through a point 15 mm away from the axis. **Draw** - Sectional Front View, Top View and True Shape of the section. Also draw development of the lateral surface of major portion of the cone.	20 20

15.2.2023(M)

SOMAIYA VIDYAVIHAR UNIVERSITY

Set C

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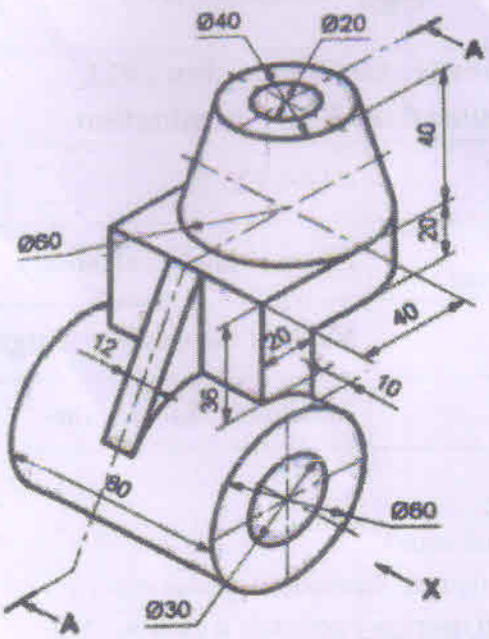
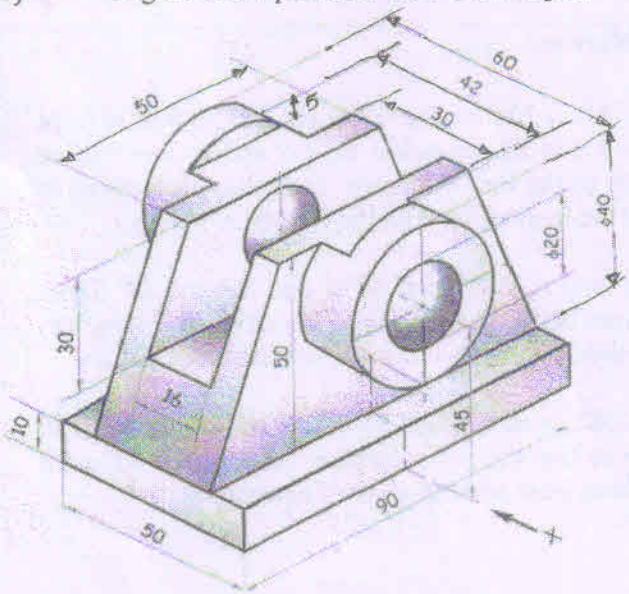
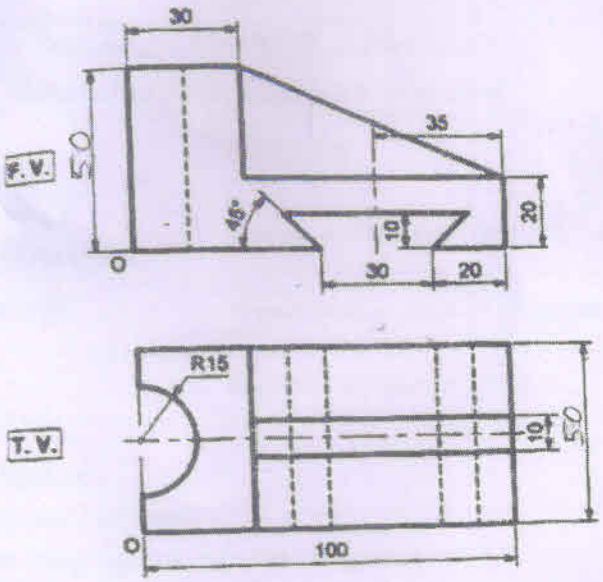
Question No.		Max Marks
Q1	Solve any **TWO** of the following	
	(a) The end A of line AB is 10 mm above the HP and 30 mm in front of the VP. The end B is 50 mm below the HP and 15 mm behind the VP. The length of the line is 80 mm. Draw the projections of the plane and find the inclination with the reference planes.	10
	(b) A line PQ, 100 mm long is inclined at 40° to the HP and 30° to the VP. Its end P is 30 mm above the HP and 40 mm in front of the VP. The end Q is in the third quadrant. Draw the projection of the line.	10
	(c) A pentagonal plane of lamina of sides 30 mm is resting on the H.P. on one of its corner so that the surface makes an angle of 60° with the H.P. Draw the front view and top view of a pentagon.	10

Q2	Figure shows pictorial view of an object.  Draw using first angle method of projections, a) Sectional Front view along X along A-A; b) Top View; c) L.H.S.V. Note: Insert 10 to 12 important dimensions	20
Q. 3	Solve any **TWO** of the following (a) An isosceles triangular plate of 50 mm base and 75 mm altitude appears as an equilateral triangle of 50 mm in top view. Draw the projections of a plate if its 50 mm long edge is on the H.P. What is the inclination of the plate with the H.P.? (b) Figure show pictorial view of an object  Draw using first angle method of projections i. Front view along X ii. Top View Note: Insert 6 to 8 important dimensions	10 10

	(c) Figure shows F.V. and T.V. of an object. Draw isometric view about an origin 'O'.  	10
Q. 4	A right regular pentagonal pyramid of 50 mm base sides and height 90 mm is lying on one of its triangular surface on the H.P., such that the top view of the axis is inclined at an angle of 45^0 to the V.P. Draw its front view and top view when apex of the pyramid is nearer to V.P. **OR** Draw the projections of the cone, base 50mm diameter and axis 75mm long, having one of its generators in the V.P. and inclined at 30^0 to HP. The apex is in H.P.	20 20
Q. 5	A square pyramid, base of 30 mm and axis 40 mm long stands vertically on the H.P. with the edges of the base equally inclined to the V.P. It is cut by the section plane perpendicular to the V.P., inclined at 45 degree to the HP and passing through the point on the axis 25mm from the apex. Draw FV, sectional TV and true shape of section. Also draw DLS assuming apex part to be removed. **OR** A right circular cone of base diameter 40 mm, axis height 50 mm has its base in the H.P. It is cut by auxiliary inclined plane which makes an angle 45 degree to the HP and passes through the point on the axis 20 mm below the apex. Draw FV, sectional TV and true shape of section. Develop the lateral surface of truncated cone.	20 20