SOMAIYA VIDYAVIHAR UNIVERSITY

| Semester: Oct 2022 – Jan 2023<br>Examination: ESE Examination | | |
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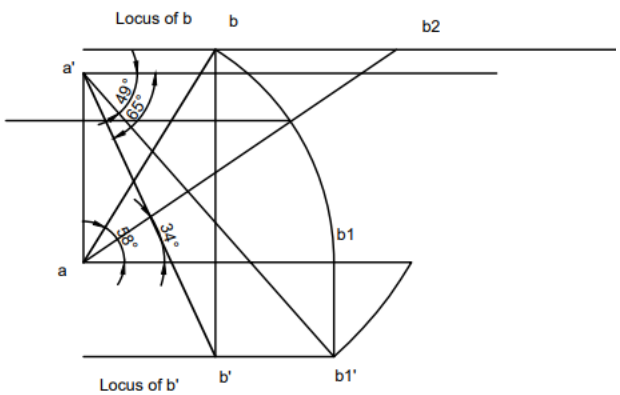
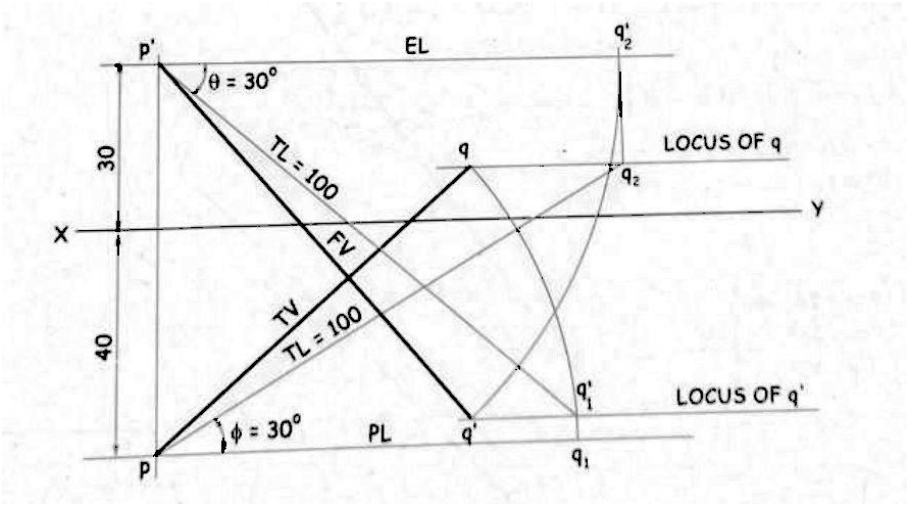
| **Programme Code: 01**<br>**Programme: B.TECH** | **Class: FY** | **Sem I**<br>**(SVU 2020)** |
| **Name of the Constituent College:**<br>**K. J. Somaiya College of Engineering** | **Name of the Department :** | |
| **Course Code: 116U06C105** | **Name of the Course: Engineering Drawing** | |
| **Duration : 3 Hour** | **Maximum Marks : 100** | |

**Instructions:**

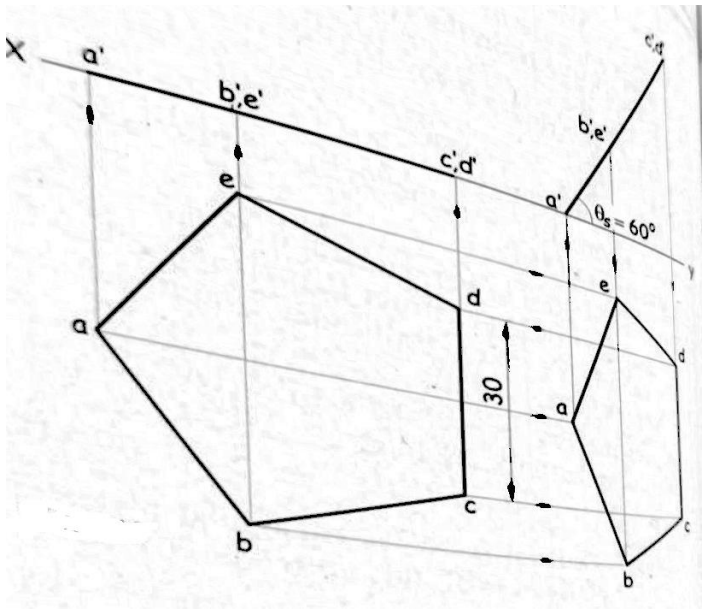
- All Questions are Compulsory.
- Figures to the right indicate full marks.
- Illustrate your answers using figures, sketches, diagrams etc.
- Assume suitable dimensions if necessary and state it clearly.
- **Avoid using colours and layers in your drawings to avoid problems during printing.**
- Line 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 | Solve any **TWO** of the following<br><br>(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.<br><br>  <br> | 10<br><br>10(02 –aa’ 02- locus of b’ 03- fv &tl 03- tv, tl & location of b)<br><br>10<br><br>(04+06) | 02 mark aa’ 02- given data plot 03- draw tv 03- and alpha theta |

(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.




(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.



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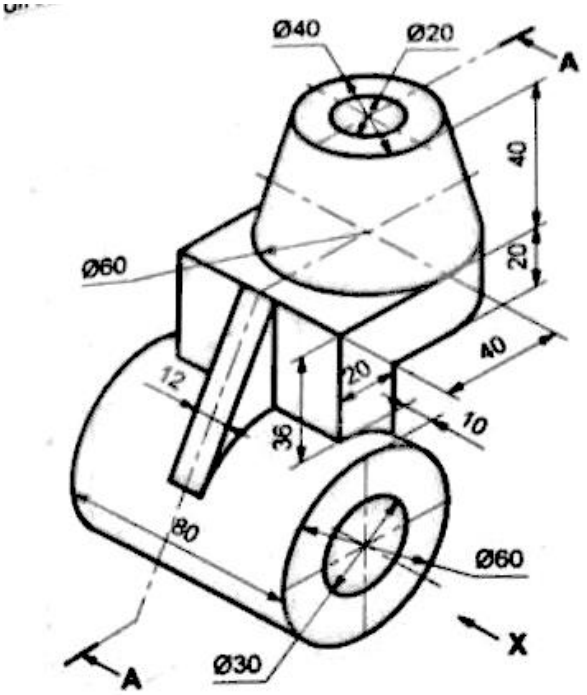
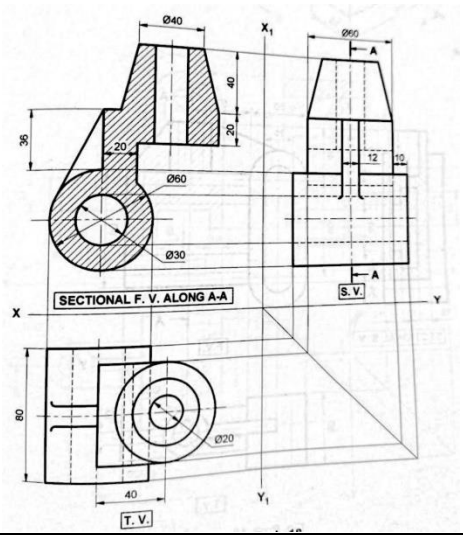
| Q2 | Figure shows pictorial view of an object.<br>  <br><br>Draw using first angle method of projections,<br>a) Sectional Front view along X along A-A;<br>b) Top View;<br>c) L.H.S.V.<br>Note: Insert 10 to 12 important dimensions<br>  <br> | 20(08 sfv+5 tv+5 sv+2 marks and dim) | |

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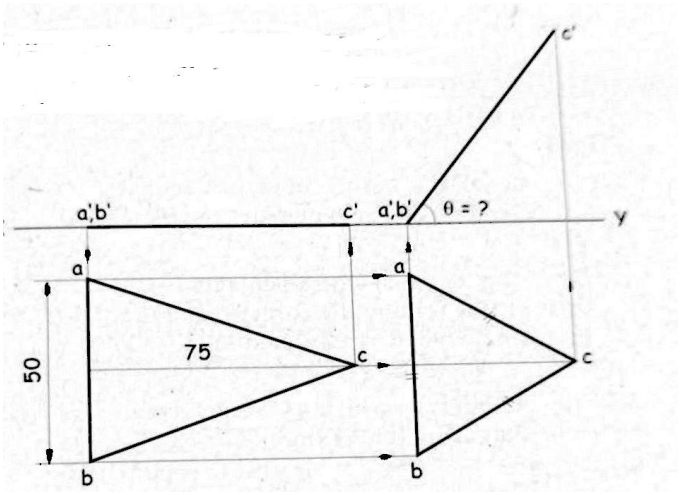
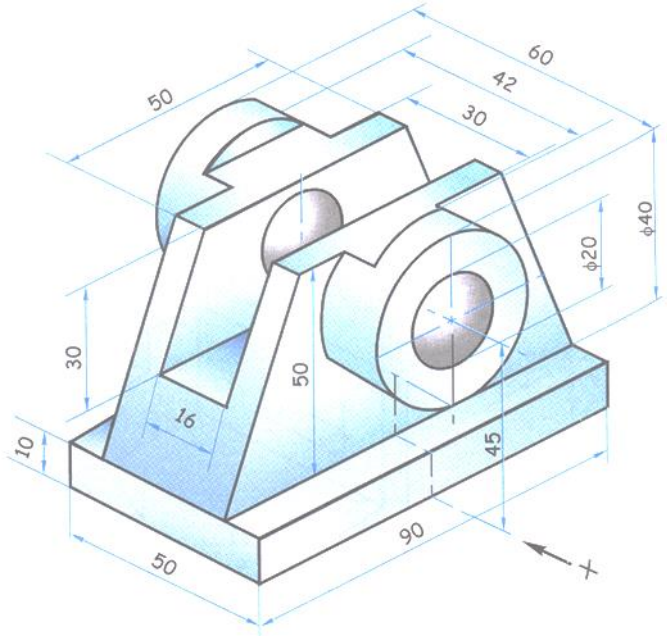
| Q. 3 | Solve any **TWO** of the following | | |
| | (a) An isosceles triangular plate of 50 mm base and 75 mm altitude appears as an equilateral triangle of 50 mm in top view. Draw the projections of a plate if its 50 mm long edge is on the H.P. What is the inclination of the plate with the H.P.? | 10(04+06) | |
| |  | | |
| | (b) Figure show pictorial view of an object<br>  <br>Draw using first angle method of projections<br>i. Front view along X<br>ii. Top View<br>Note: Insert 6 to 8 important dimensions | 10(05+05) | |

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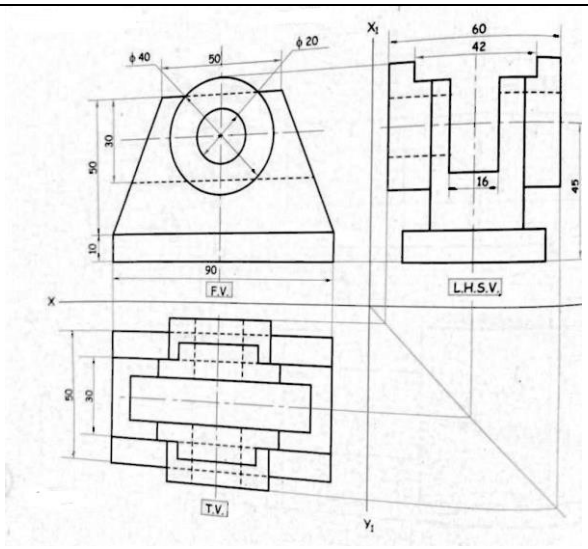
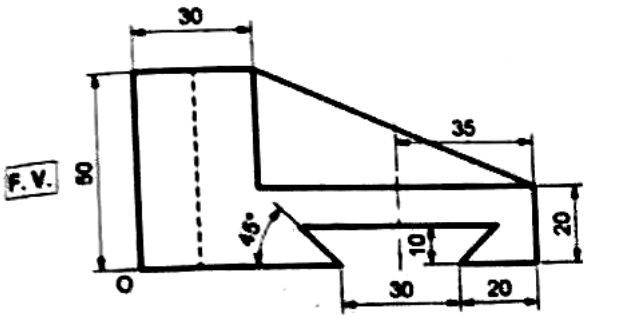
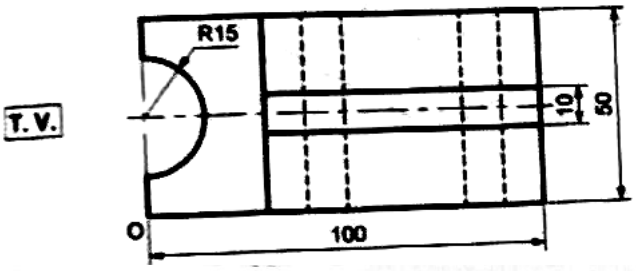
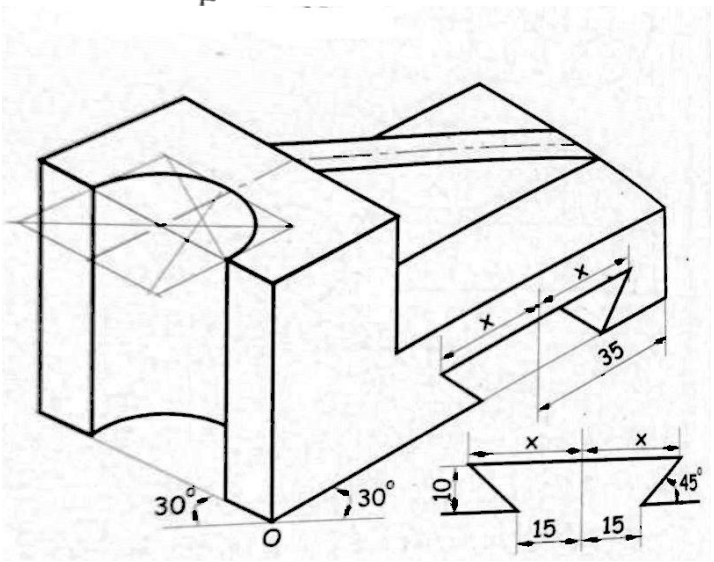
| |  | | 10(05+ 05) |

(c) Figure shows F.V. and T.V. of an object.
Draw isometric view about an origin 'O'.



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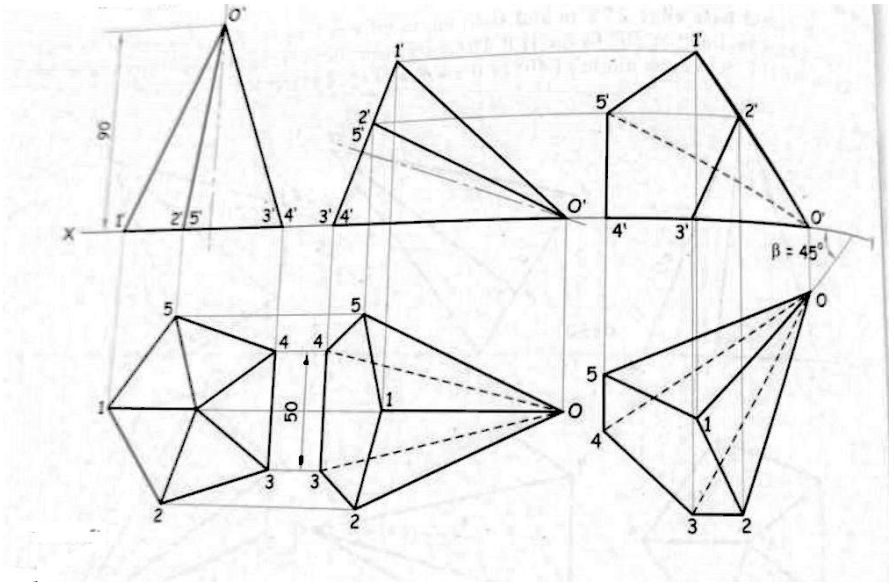
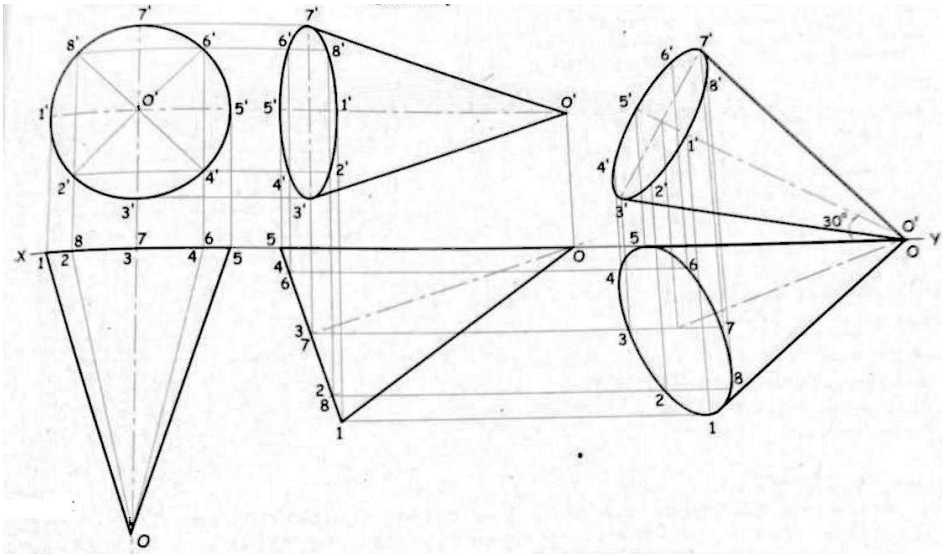
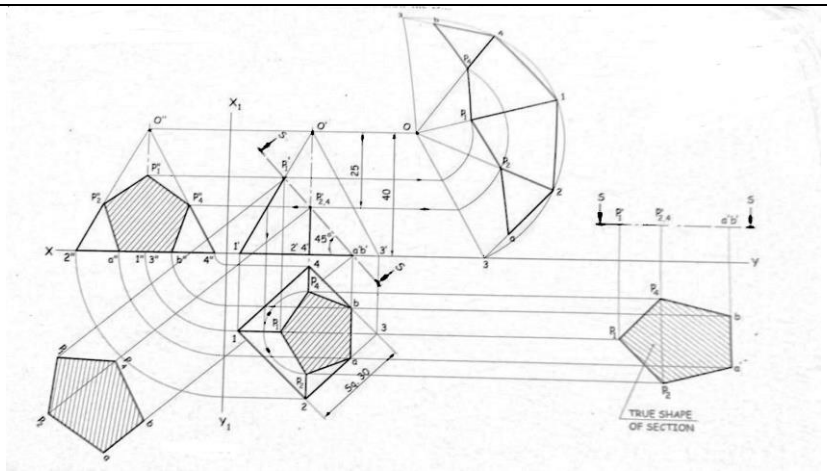
| Q. 4 | A right regular pentagonal pyramid of 50 mm base sides and height 90 mm is lying on one of its triangular surface on the H.P., such that the top view of the axis is inclined at an angle of $45^0$ to the V.P. Draw its front view and top view when apex of the pyramid is nearer to V.P.<br>  <br>**OR**<br>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.<br>  | 20(04+7+72)<br><br>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. | 20(5-sec tv+3 fv+6-development +4 true shape+2 marks and dimensioning | |

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**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.