Basic Mechanical Engineering

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PRACTICAL

PART – I - ENGINEERING DRAWING PRACTICAL PART – II - AUTOCAD SOFTWARE DRAWING PRACTICAL

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PRACTICAL - I ENGINEERING DRAWING PRACTICAL

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LETTERING AND NUMBERING

OBJECTIVE:

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To write the letters and numbers according to engineering drawing standards.

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Operations covered under the project:



Instruments Required

Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Kequirea	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

Step 1: Choose the correct size of the drawing sheet to draw the letters and numbers.

- Step 2: Select the suitable drawing instrument and materials.
- Step 3: Fix the drawing sheet on the drawing board by writing the drawing pins or clips.
- Step 4: Fix the mini drafter on the drawing board at correct position.
- Step 5: Draw the boarder lines on the four sides of the drawing sheets and draw title block on the drawing.
- Step 6: Draw the horizontal and vertical lines at appropriate dimensions required to write the letters and numbers.
- Step 7: Draw the letters (vertical and inclined) at the appropriate column at regular gapes.
- Step 8: Draw the numbers (only vertical position) at the appropriate column at regular gapes.
- Step 9: Draw the letters and number thick position by using HB grade of the pencil.
- Step 10: Finally fold the drawing sheet in correct position.

CONCLUSION

Thus the letters and numbers according to engineering drawing standards has written.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK
1	Lettering and numbering	https://youtu.be/ST75fYk4QpY

Simple assessment

- 1. The ratio between the height and width of the letter and number is ______
- 2. The dimension of the drawing head is _____
- 3. The name of writing the letters at sequence of thickness is _____
- 4. The angle of the inclined letter is _____

Answer key

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 1. 7:4 or 7:5
 2. 6 or 8 mm
 3. Gothic letters
 4. 75°

Student project	To draw the another type of lettering and numbering
Guest lecture suggestions	Give the lecture about how to draw the letters and numbers by engineering college lecture and draughtsman from industries
Industrial / field visit suggestions	To make arrangement to visit institution / industries where there use of letters and numbers

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DRAW THE ORTHOGRAPHIC PROJECTIONS FROM ISOMETRIC DRAWING- 1

OBJECTIVE:

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To draw the three views of orthographic projection [Elevation, plan, and end view] from the given isometric view of the object.

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Operations covered under the project:



Instruments Required

Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Kequirea	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: First study the dimensions of the given isometric view. (length and height of the object)
- Step 2: Choose the front view according to the arrow mark given in the figure.
- Step 3: Draw four quadrants at 90° each, in such way the top right would be 1st immediate adjacent would be the 2nd, the immediate bottom would be the 3rd and the immediate adjacent would be the 4th.
- Step 4: Draw the visible features of the front view in the first quadrants position according to the dimension of the given isometric view of an object.
- Step 5: Draw projectors off the front view horizontally and vertically in order to create the boundaries for the top and right side views
- Step 6: Draw the top and right side views in fourth and second quadrant position in the drawing sheet as per the dimension referred in the given isometric view.
- Step 7: Finally fold the drawing sheet correct in position.

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CONCLUSION

Thus the orthographic projection views are drawn from the given isometric view of the object.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK
1	Isometric to orthographic projection	https://youtu.be/C0FiimqkLBo

Simple assessment

- 1. The angle of each quadrants is _____
- 2. The front view is drawn in the ______quadrant in first angle projection
- 3. The length and height of the figure in front view is _____
- 4. The length of the top view is _____
- 5. The length of the side view is _____

Answer key

1. 90°

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- 2. First
- 3. 80mm and 40mm
- **4.** 60mm
- **5.** 60mm



DRAWING-2

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OBJECTIVE:

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To draw the three views of orthographic projection [Elevation, plan, and end view] from the given isometric view of the object.

Operations covered under the project:



Draw End view draft in second quadrants

Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No



Procedure:

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- Step 1: First study the dimensions of the given isometric view. (length and height of the object)
- Step 2: Choose the front view according to the arrow mark given in the figure.
- Step 3: Draw four quadrants at 90° each, in such way the top right would be 1st immediate adjacent would be the 2nd, the immediate bottom would be the 3rd and the immediate adjacent would be the 4th.
- Step 4: Draw the visible features of the front view in the first quadrants position according to the dimension of the given isometric view of an object.
- Step 5: Draw projectors off the front view horizontally and vertically in order to create the boundaries for the top and right side views
- Step 6: Draw the top and right side views in fourth and second quadrant position in the drawing sheet as per the dimension referred in the given isometric view.
- Step 7: Finally fold the drawing sheet correct in position.

CONCLUSION

Thus the orthographic projection views are drawn from the given isometric view of the object.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK			
1	Isometric to orthographic projection	https://youtu.be/C0FiimqkLBo			

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DRAWING-3

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OBJECTIVE:

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To draw the three views of orthographic projection [Elevation, plan, and end view] from the given isometric view of the object.

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: First study the dimensions of the given isometric view. (length and height of the object)
- Step 2: Choose the front view according to the arrow mark given in the figure.
- Step 3: Draw four quadrants at 90° each, in such way the top right would be 1st immediate adjacent would be the 2nd, the immediate bottom would be the 3rd and the immediate adjacent would be the 4th.
- Step 4: Draw the visible features of the front view in the first quadrants position according to the dimension of the given isometric view of an object.
- Step 5: Draw projectors off the front view horizontally and vertically in order to create the boundaries for the top and right side views
- Step 6: Draw the top and right side views in fourth and second quadrant position in the drawing sheet as per the dimension referred in the given isometric view.
- Step 7: Finally fold the drawing sheet correct in position.

CONCLUSION

Thus the orthographic projection views are drawn from the given isometric view of the object.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK
1	Isometric to orthographic projection	https://youtu.be/C0FiimqkLBo

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DRAWING-4

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OBJECTIVE:

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To draw the three views of orthographic projection [Elevation, plan, and end view] from the given isometric view of the object.

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Kequirea	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: First study the dimensions of the given isometric view. (length and height of the object)
- Step 2: Choose the front view according to the arrow mark given in the figure.
- Step 3: Draw four quadrants at 90° each, in such way the top right would be 1st immediate adjacent would be the 2nd, the immediate bottom would be the 3rd and the immediate adjacent would be the 4th.
- Step 4: Draw the visible features of the front view in the first quadrants position according to the dimension of the given isometric view of an object.
- Step 5: Draw projectors off the front view horizontally and vertically in order to create the boundaries for the top and right side views
- Step 6: Draw the top and right side views in fourth and second quadrant position in the drawing sheet as per the dimension referred in the given isometric view.
- Step 7: Finally fold the drawing sheet correct in position.

CONCLUSION

Thus the orthographic projection views are drawn from the given isometric view of the object.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK
1	Isometric to orthographic projection	https://youtu.be/C0FiimqkLBo

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DRAWING-5

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OBJECTIVE:

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To draw the three views of orthographic projection [Elevation, plan, and end view] from the given isometric view of the object.

Operations covered under the project:



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Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No



Procedure:

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- Step 1: First study the dimensions of the given isometric view. (length and height of the object)
- Step 2: Choose the front view according to the arrow mark given in the figure.
- Step 3: Draw four quadrants at 90° each, in such way the top right would be 1st immediate adjacent would be the 2nd, the immediate bottom would be the 3rd and the immediate adjacent would be the 4th.

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Step 4: Draw the visible features of the front view in the first quadrants position according to the dimension of the given isometric view of an object.

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- Step 5: Draw projectors off the front view horizontally and vertically in order to create the boundaries for the top and right side views
- Step 6: Draw the top and right side views in fourth and second quadrant position in the drawing sheet as per the dimension referred in the given isometric view.
- Step 7: Finally fold the drawing sheet correct in position.

CONCLUSION

Thus the orthographic projection views are drawn from the given isometric view of the object.

Video Suggestions

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S.NO	TITLE / PURPOSE	LINK	
1	Isometric to orthographic projection	https://youtu.be/C0FiimqkLBo	

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DRAW THE ISOMETRIC VIEW FROM ORTHOGRAPHIC PROJECTONS **7**

DRAWING-1

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OBJECTIVE:

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To draw the isometric view of orthographic projection given in the figure (front view, Top view, and side view).

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: Draw a horizontal straight line and make a centre point.
- Step 2: From that point draw two inclined lines on both sides with 30° to the base line and from the same point draw a vertical line. [namely X, Y and Z axes]
- Step 3: In that vertical line, mark the height of the object for front and end view.
- Step 4: Draw the parallel lines for front and side views.
- Step 5: Now we complete the isometric box.
- Step 6: Mark the dimension of front, top and side views of orthographic projection in xy, xz, yz plane respectively.
- Step 7: Draw the edge lines of the object darkly.

CONCLUSION

Thus the isometric view is drawn from given orthographic projections.

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Video Suggestions

S	.NO	TITLE / PURPOSE			LINK	
	1	Orthographic to Isometric pro	ojection	https://youtu	1.be/oNQJXjNzD6k	
Simj 1. 2. 3. 4.	ple Ass The ang The len The bre The bre	essment le between three axes is gth of the object in isometric v adth of the object in isometric ght of the object in isometric v	iew is view is iew is			
Ansv	wer ke	y				
1.	120°	2. 60mm	3.	20mm	4. 60mm	

Student project	To draw the isometric view for different given
	orthographic projection
Guest lecture suggestions	Give the lecture about how to draw isometric
	view from given orthographic projections
Industrial / field visit suggestions	Not applicable

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DRAW THE ISOMETRIC VIEW FROM ORTHOGRAPHIC PROJECTONS 8

DRAWING-2

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OBJECTIVE:

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To draw the isometric view of orthographic projection given in the figure (front view, Top view, and side view).

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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PLAN

Procedure:

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- Step 1: Draw a horizontal straight line and make a centre point.
- Step 2: From that point draw two inclined lines on both sides with 30° to the base line and from the same point draw a vertical line. [namely X, Y and Z axes]
- Step 3: In that vertical line, mark the height of the object for front and end view.
- Step 4: Draw the parallel lines for front and side views.
- Step 5: Now we complete the isometric box.
- Step 6: Mark the dimension of front, top and side views of orthographic projection in xy, xz, yz plane respectively.
- Step 7: Draw the edge lines of the object darkly.

CONCLUSION

Thus the isometric view is drawn from given orthographic projections.

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DRAW THE ISOMETRIC VIEW FROM ORTHOGRAPHIC PROJECTONS 9

DRAWING-3

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OBJECTIVE:

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To draw the isometric view of orthographic projection given in the figure (front view, Top view, and side view).

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: Draw a horizontal straight line and make a centre point.
- Step 2: From that point draw two inclined lines on both sides with 30° to the base line and from the same point draw a vertical line. [namely X, Y and Z axes]
- Step 3: In that vertical line, mark the height of the object for front and end view.
- Step 4: Draw the parallel lines for front and side views.
- Step 5: Now we complete the isometric box.
- Step 6: Mark the dimension of front, top and side views of orthographic projection in xy, xz, yz plane respectively.
- Step 7: Draw the edge lines of the object darkly.

CONCLUSION

Thus the isometric view is drawn from given orthographic projections.

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DRAW THE ISOMETRIC VIEW FROM ORTHOGRAPHIC PROJECTONS

DRAWING-4

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OBJECTIVE:

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To draw the isometric view of orthographic projection given in the figure (front view, Top view, and side view).

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: Draw a horizontal straight line and make a centre point.
- Step 2: From that point draw two inclined lines on both sides with 30° to the base line and from the same point draw a vertical line. [namely X, Y and Z axes]
- Step 3: In that vertical line, mark the height of the object for front and end view.
- Step 4: Draw the parallel lines for front and side views.
- Step 5: Now we complete the isometric box.
- Step 6: Mark the dimension of front, top and side views of orthographic projection in xy, xz, yz plane respectively.
- Step 7: Draw the edge lines of the object darkly.

CONCLUSION

Thus the isometric view is drawn from given orthographic projections.

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DRAW THE ISOMETRIC VIEW FROM ORTHOGRAPHIC PROJECTONS

DRAWING-5

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OBJECTIVE:

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To draw the isometric view of orthographic projection given in the figure (front view, Top view, and side view).

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Required	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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PLAN

Procedure:

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- Step 1: Draw a horizontal straight line and make a centre point.
- Step 2: From that point draw two inclined lines on both sides with 30° to the base line and from the same point draw a vertical line. [namely X, Y and Z axes]
- Step 3: In that vertical line, mark the height of the object for front and end view.
- Step 4: Draw the parallel lines for front and side views.
- Step 5: Now we complete the isometric box.
- Step 6: Mark the dimension of front, top and side views of orthographic projection in xy, xz, yz plane respectively.
- Step 7: Draw the edge lines of the object darkly.

CONCLUSION

Thus the isometric view is drawn from given orthographic projections.

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Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Kequirea	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: Draw the top view of the given isometric view.
- Step 2: Mark the cutting plane in the top view drawing.
- Step 3: Draw the projection lines from the top view drawing to draw the front view.
- Step 4: Draw the front view drawing in the projected lines as per the given dimensions.
- Step 5: Draw the hatching lines in the front view in required zone according with the cutting plane.
- Step 6: Hatching lines should be at the angle of 45° must have the gap of 1.5mm to 3mm between them.

CONCLUSION

Thus section view is drawn from the given isometric view.

Video Suggestions

S.NO	TITLE / PURPOSE	LINK
1	Drawing the sectional view from the given isometric view	https://youtu.be/NzH5KT0OdKM

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Simple Assessment

- 1. The angle of hatching line drawn in sectional view _____
- 2. The distance between the hatching lines _____
- 3. The diameter of the hole given _____
- 4. The height of the cylindrical part is _____

Answer key

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 1. 45
 2. 1.5 mm to 3mm
 3. 20mm
 4. 55mm

Student project	To draw the sectional view of different given
	isometric view
Guest lecture suggestions	Give the lecture about how to drawn the sectional view from given isometric view
Industrial / field visit suggestions	Not applicable

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DRAW THE SECTIONAL VIEW OF GIVEN ISOMETRIC PROJECTONS DRAWING- 2

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OBJECTIVE:

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To draw the sectional view of cutting section given isometric view of object.

Operations covered under the project:



Section/ Activity Title	S.No	Name of the tools/ equipment	Range/Value	Quantity
	1.	Drawing board	D2 Size	01 No
	2.	Drafter	Mini	01 No
	3.	Pencils and pencil leads	Н, 2Н, НВ	01 No
Materials	4.	Scales	1 Feet	01 No
Kequirea	5.	Protractor		01 No
	6.	Instrument Box		01 No
	7.	Drawing sheets	A2	01 No
	8.	French curves		01 No

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Procedure:

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- Step 1: Draw the top view of the given isometric view.
- Step 2: Mark the cutting plane in the top view drawing.
- Step 3: Draw the projection lines from the top view drawing to draw the front view.
- Step 4: Draw the front view drawing in the projected lines as per the given dimensions.
- Step 5: Draw the hatching lines in the front view in required zone according with the cutting plane.
- Step 6: Hatching lines should be at the angle of 45° must have the gap of 1.5mm to 3mm between them.

CONCLUSION

Thus section view is drawn from the given isometric view.

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PRACTICAL - II AUTOCAD SOFTWARE DRAWING PRACTICAL

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REPRESENTATION OF GIVEN 2D FIGURE USING AUTOCAD SOFTWARE

OBJECTIVE:

To represent the given 2D figure using AutoCAD software

Operations/exercises covered under the project:



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G K J F A H B C D I E

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Calculation of unknown dimensions

GF = 100 mm, AG = 75 mm, and BD = 40 mmFrom the figure, we can say AE = GF = 100 mmAB = DE = (AE - BD)/2=(100-40)/2= 30 mmAC=AE/2=100/2=50 mmBC=BD/2=40/2=20 mm=Radius of the arc BDAH= GK=JF=EI=10 mm

Tools and equipment required

Section/ Activity Title	S. No	Name of the tools/ equipment	Range/Value	Quantity
Calculation	1	Calculators	Scientific	1
Drafting	2	Computer (Desktop/ Laptop)	Required configuration: 8 GB RAM, 256 GB HDD, 2 GB Graphics card	1/ student
	3	AutoCAD software	Version 2016	1/ user
	4	Printer	HP Laser jet printer of any series	1/ class

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Procedure:

- Step 1: Open AutoCAD software by double clicking the AutoCAD icon
- Step 2: Choose create and define new file name (Say, Example_1.dwg)
- Step 3: Set UNITS as millimeters and precision '0'.
- Step 4: Set LIMITS (0,0) and (297, 420)
- Step 5: Use line command either by selecting the line tool in draw option or manually type LINE in command window. Draw the line AG, GF, FE, ED, AB by specifying the various options available.
- Step 6: Draw the ARC with 'C' as center and radius equal to BC starting at B and end at D.
- Step 7: Draw the dashed line (Hidden line) HK and IJ. Change its properties using LAYERS.Choose the linetype 'dashed line' and line color 'Dark grey' (To denote H pencil shade as all visible lines are Black in color which denotes HB pencil shade)
- Step 8: Change the style of dimensions using DIMSTYLE. Modify the text height as 3 mm and arrow size appropriately. Set currently the modified dimension.
- Step 9: Notate dimensions using DIMLINEAR and DIMARC.
- Step 10: Export the Figure to PDF.

CONCLUSION

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Thus the given 2D figure is represented using AutoCAD software

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REPRESENTATION OF 2D TRUE SHAPE OF THE CUT SECTION OF 3D OBJECT USING AUTOCAD SOFTWARE

Problem: A rectangular block of base dimension and height is cut by a section plane inclined at to the ground and perpendicular to the wall and passing through the midpoint of one of its rectangular faces which is perpendicular to both ground and the wall. Draw and measure the true shape of the cut section using AutoCAD software.

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OBJECTIVE:

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To draw and measure the 2D true shape of the cut section of 3D object using AutoCAD software

Operations/exercises covered under the project:





Dimensions: ab = 40 mm, ad = 20 mm, ae = 60 mm

Tools and equipment required

Section/ Activity Title	S. No	Name of the tools/ equipment	Range/Value	Quantity
Calculation	1	Calculators	Scientific	1
Drafting	2	Computer (Desktop/ Laptop)	Required configuration: 8 GB RAM, 256 GB HDD, 2 GB Graphics card	1/ student
	3	AutoCAD software	Version 2016	1/ user
	4	Printer	HP Laser jet printer of any series	1/ class

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Procedure:

- Step 1: Open AutoCAD software by double clicking the AutoCAD icon
- Step 2: Choose create and define new file name (Say, Example_1.dwg)
- Step 3: Set UNITS as millimeters and precision '0'.
- Step 4: Set LIMITS (0,0) and (297, 420)
- Step 5: Use line command either by selecting the line tool in draw option or manually type LINE in command window. Draw the line AG, GF, FE, ED, AB by specifying the various options available.
- Step 6: Draw the ARC with 'C' as center and radius equal to BC starting at B and end at D.
- Step 7: Draw the dashed line (Hidden line) HK and IJ. Change its properties using LAYERS.Choose the linetype 'dashed line' and line color 'Dark grey' (To denote H pencil shade as all visible lines are Black in color which denotes HB pencil shade)
- Step 8: Change the style of dimensions using DIMSTYLE. Modify the text height as 3 mm and arrow size appropriately. Set currently the modified dimension.
- Step 9: Notate dimensions using DIMLINEAR and DIMARC.
- Step 10: Export the Figure to PDF.

CONCLUSION

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Thus the 2D true shape of cut section of 3D object is drawn and the dimension of the true shape is measured as 20 mm×42 mm

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REPRESENTATION OF GIVEN 2D FIGURE USING AUTOCAD SOFTWARE - 1



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REPRESENTATION OF GIVEN 2D FIGURE USING AUTOCAD SOFTWARE - 2.



DRAW THE ORTHOGRAPHIC PROJECTION OF THE FIGURE GIVEN BELOW USING AUTOCAD SOFTWARE

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DRAW THE ORTHOGRAPHIC PROJECTION OF THE FIGURE GIVEN BELOW USING AUTOCAD SOFTWARE:

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REPRESENTATION OF 2D TRUE SHAPE OF THE CUT SECTION OF 3D OBJECT USING AUTOCAD SOFTWARE

Problem: A cube of side 40 mm is placed on the ground such that it is cut by a section plane passing through its solid diagonal. Identify the shape of the true section and measure its dimension using the AutoCAD software.

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