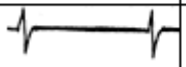
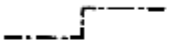
Line		Description	General Application
A		Continuous thick	A1 Visible outlines. A2 Visible edges.
B		Continuous thin (straight or curved)	B1 Imaginary lines of intersection. B2 Dimension lines. B3 Projection lines. B4 Leader lines. B5 Hatching lines. B6 Outlines of revolved sections in place. B7 Short centre lines
C		Continuous thin free hand	C1 Limits of partial or interrupted views and sections, If the limit is not a chain thin.
D		Continuous thin (straight) with zigzags	D1 Long break line
E		Dashed thick	E1 Hidden outlines. E2 Hidden edges.
F		Dashed thin	F1 Hidden outlines. F2 Hidden edges.
G		Chain thin	G1 Center lines. G2 Lines of symmetry. G3 Trajectories
H		Chain thin, thick at ends and changes of direction	H1 Cutting planes.
J		Chain thick	J1 Indication of lines or surfaces to which a special requirement applies
K		Chain thin double dashed	K1 Outlines of adjacent parts. K1 Alternative or extreme position of movable parts. K3 Centroidal lines. K4 Initial outlines prior to forming K5 Parts situated in front of the cutting plane

- Short centre line- these line are centre lines for very small curves. Example- circle with small radius can not have actual centre line(chain thick) so we use thin lines with 2H pencil.
- Thick line- 0.5mm
- Thin line- 0.2mm
- Continuous thin line- for showing broken section so that dimensioning of that part can be done.
- **Continuous thin zig zag line- Used to shrink the size of large object which is uniform all over its length.**
- **Chain thin line, thick at ends**- 0.2mm Used for offset sectioning, if there are a lot of sections to be made on a single object, then rather than making all the sections separately, we can use this line to section all of them together by changing the direction of line for every figure to be sectioned.
- Double dashed chain line. Shows the moving parts and end trajectories.

Que1. The following is included in the title block of drawing sheet?

Ans. Name, Roll number, scale, sheet number, method of projection, angle of projection, institution name.

Que2. Which line is used to make visible outlines?

Ans. Continuous thick (with HB pencils)

Ques3. Which line is used for dimension line??

Ans. Continuous thin (with 2H pencil)

Ques4. The dotted line represents?

Ans. Hidden edges (Made with 2H pencils)

Ques5. Hatching lines are drawn at which angle?

Ans. 45 (continuous thin line is used and made with 2H pencil)

Ques6. The internal angle of regular pentagon is?

Ans. 108

Ques7. The internal angle of regular hexagon is?

Ans. 120

Ques8. A tetrahedron has ?

Ans. Four equal triangles(equilateral).

Ques9. In first angle projection method object is assumed to be placed in which quadrant?

Ans. First Quadrant.

Ques10. Why we don't prefer in drawing 2^{nd} and 4^{th} angle projection?

Ans. becoz as per standards the H.P has to be rotated by 90 degree clockwise to be represented in 2D and in 2^{nd} and 4^{th} angle projection V.P and H.P will coincide and the projections will not be clear.

Ques 11. The side view of an object is drawn in?

Ans. Profile Plane

Ques 12. Why hatching lines are drawn?

Ans. To tell the observer as to where exactly the imaginary cutting plane cuts the material of the object.

Ques 13. Representative factor(R.F) is defines as?

Ans. R.F= Length of an object in drawing/Actual length of the object

Ques 14. A line of 1 metre is shown by 1cm on a scale, its R.F is?

Ans. 1/100

Ques15. Which of the following represent reducing scale?

Ans. 1:2

1. 1:1
2. 1:2

3. 2:1
4. 10:1

Ques 16. Rectangular prism is an example of?

Ans. Object having isometric lines.

3D view is called isometric view.

Ques 17. What is a polyhedron?

Ans. Made of corners and edges.

Eg. Cube, pyramids, etc.

Cylinder is not a polyhedron.

Ques 18. What is a generator?

Ans. A Generator is an imaginary line drawn along the surface of a curved solid which if rotated around the axis of the solid follows the path of the curved surface.

Ques 19. A French curve is used to draw?

Ans. Smooth freedom curve. Example- ellipse, parabola,etc.

Ques 20. Uses Of centre line.

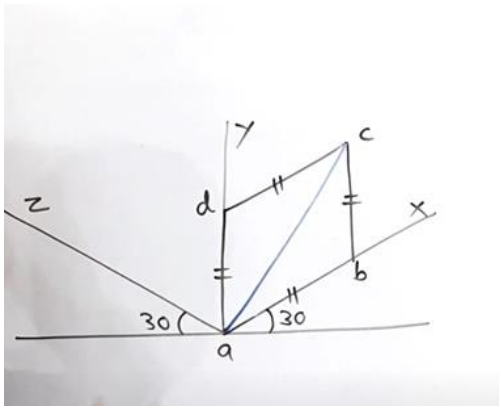
Ans. Axis of cylinder, centerline of the hole, axis of symmetry.

Ques 21. A circle will appear on an isometric drawing as

Ans. Ellipse.

Ques 22. Lines of an isometric drawing that are not parallel to isometric axis are called?

Ans. Non-isometric lines. Eg ac line below.



Ques 23. In orthographic projection, the front view is projected on which plane.

Ans. Vertical plane.

Ques 24. Types of views in EG?

Ans. orthographic, pictorial, isometric, perspective.

Ques 25. If θ+ φ=90, then which of the following statement is correct?

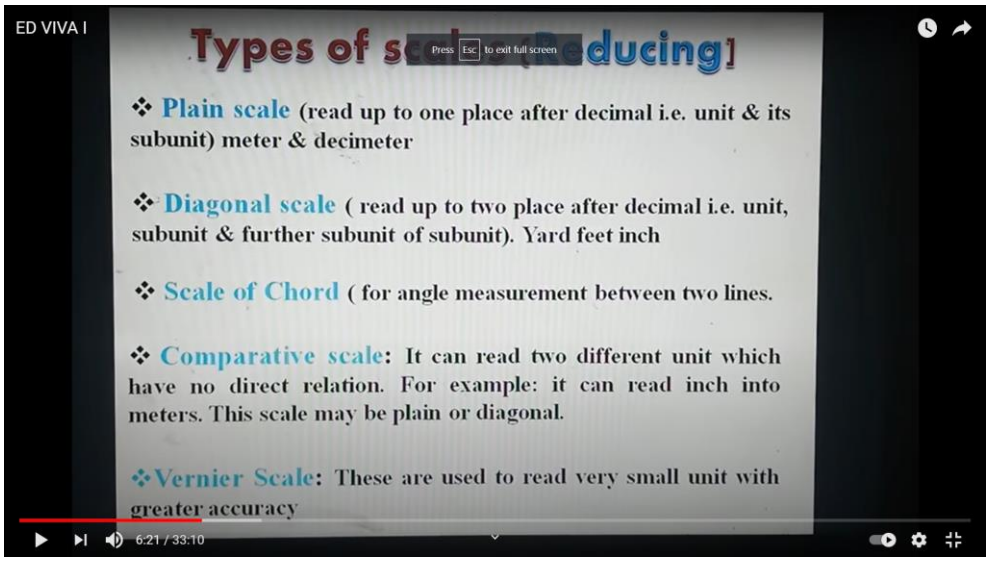
Ans. all are correct.

1. Alpha=beta=90 (alpha is elevation angle and beta is plan angle)
2. Side view has the true length
3. Front view is perpendicular to XY
4. Top view is perpendicular to XY

Ques 26 The location of LHSV in the third angle method of projection is on the

Ans- left hand side of FV.

Ques 27. Types of scale and its uses?



Ques 28. The scale used for angular measurement is?

Ans. Scale of chord- used to measure angle.

Ques 29. Types of planes.

Ans. Principal planes- horizontal plane, vertical plane and Profile Plane.

Auxiliary planes- Auciliary inclined plane and Auxiliary vertical plane.

Ques 30. The value of the ratio of isometric length to the true length is

Ans. 0.815(isometric length/true length)

Ques 31. The planes parallel to any of the two isometric lines are called

Ans. Isometric plane

Ques 32. When the line is parallel to VP and perpendicular to HP, we can get its true length in

Ans. Front view

Ques 33. Eccentricity of a figure is not equal to 1 it is

Ans. Ellipse or hyperbola

Parabola and circle have eccentricity equal to 1.

Ques 34. Short break line is used to indicate a

Ans. Part to be broken.

Ques 35. The type of line used to indicate a cutting plane is

Ans long dashed dotted line

Ques 36. The angle between each axis for an isometric drawing is

Ans. 120

Ques 37. Scale used when the lengths are required in three consecutive units is

Ans. Diagonal

Ques 38. To obtain the true shape of the section of solid, an auxiliary plane is set at

Ans. Parallel to cutting plane

Ques 39. Front view and top view are also called

Ans. Elevation and plan respectively.

Ques40. A square plane is inclined to HP and perpendicular to VP its elevation appears as

Ans. Straight line

Ques 41. To draw the leader line, which type of the following line is used?

Ans. Continuous thin line

Ques 42. When the plane cuts the cone parallel to the generator, the curve traced out is

Ans . Parabola

Ques 43. When a line is inclined to VP and parallel to HP, the front view will be ___ to XY.

Ans. Parallel

Ques 44. Solid having minimum number of faces is

Ans. Tetrahedron

Ques 45. Methods for the development of solids are

Ans. Parallel line method

Ques 46. What does WCS stand for?

Ans. World Coordinate System

Ques 47. The real angle made by isometric axes with each other is

Ans. 90

Questions asked by External Examiner

Ques 48. Difference in line and point and plane?

Ans. Plane is a 2D figure. It has only length and width but zero thickness.

Line- It is a 1D figure having only length.

Ques 49.What is Engineering drawing?

Ans. It is a language used by engineers universally. The drawing is used to share ideas/imagination, design with proper dimension. The engineering drawing are drawn by using special drawing instruments.

Ques 50. Uses of Drafter?

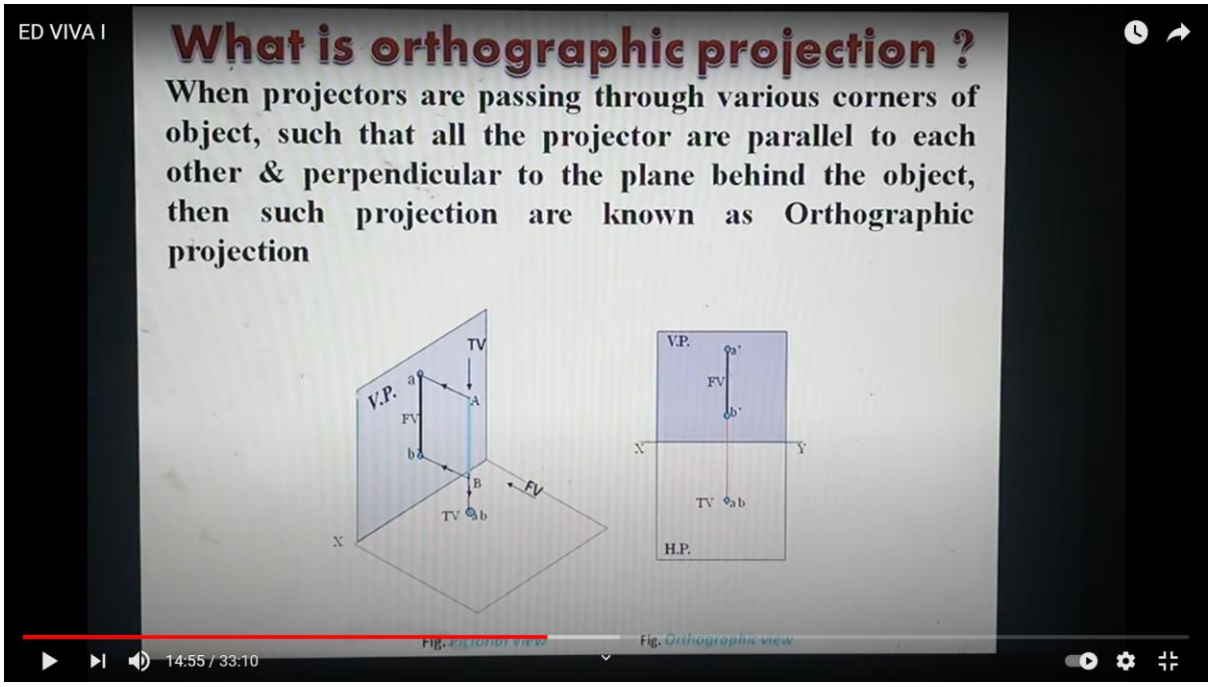
Ans.

Ques 51. Types of Pencils used and their uses

Ans.

Ques 52. What is orthographic projection?

Ans.



Ques 53. Types of Dimensioning a line.

Ans. 1. Alligned system (read from bottom or right side)

2. unidirectional system

Ques 54. Application of continuous narrow lines

Ans.

Ques 55. Dimension of Title letters

Ans.7:4 (if h is the height of letters then 1/7h should be the spacing between letters)

Ques 56. Size of sheets.

Ans.

A0- 1189*841 (NOTE- 841*1.41=1189)

A1- 841*594

A2- 594*420

A3- 420*297

A4- 297*210

Ques 57. What are traces?

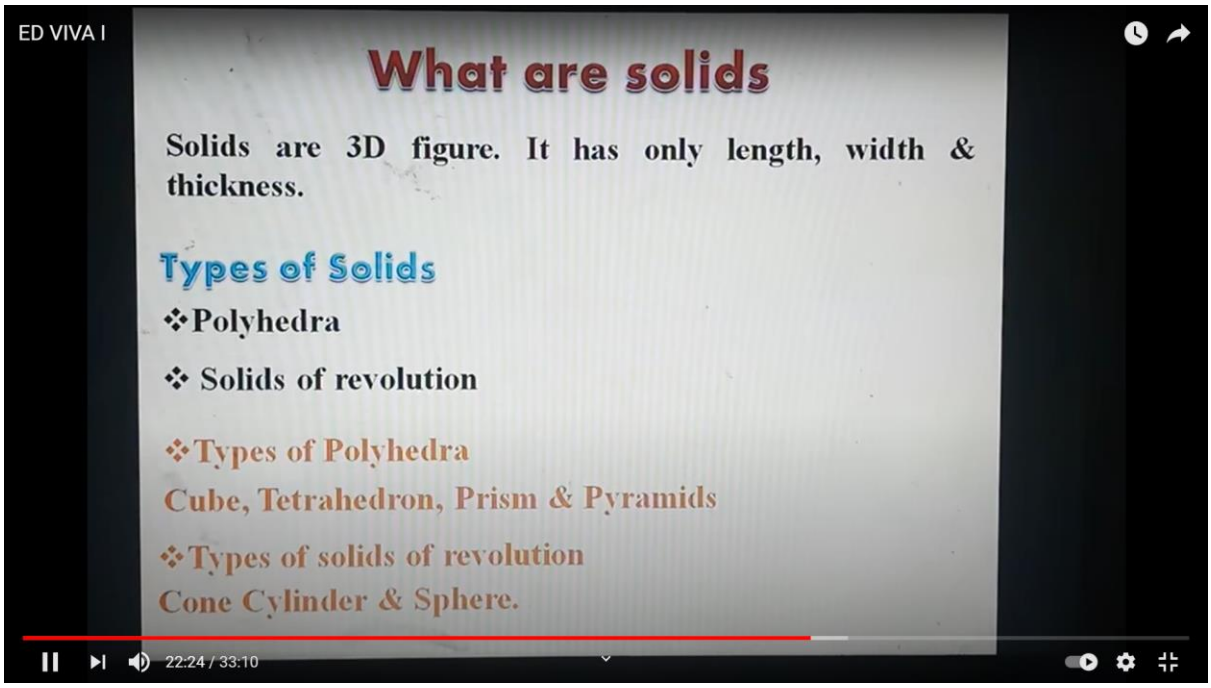
Ans.

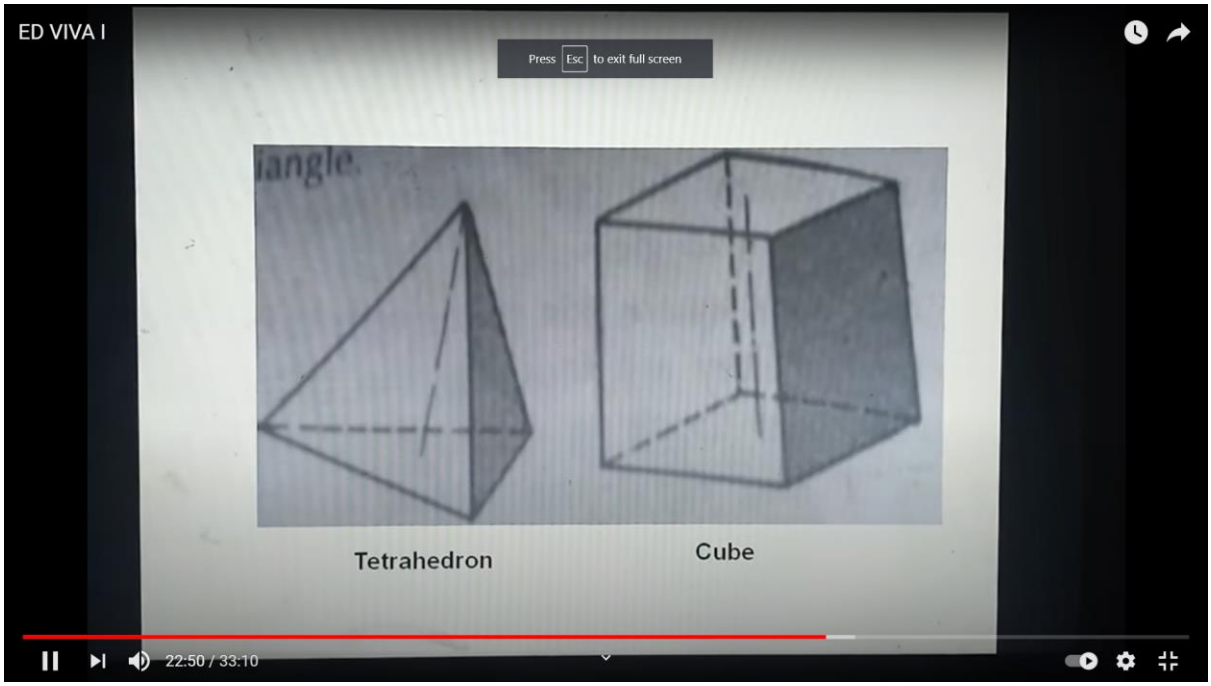
Ques 58. Angle made by section lines?

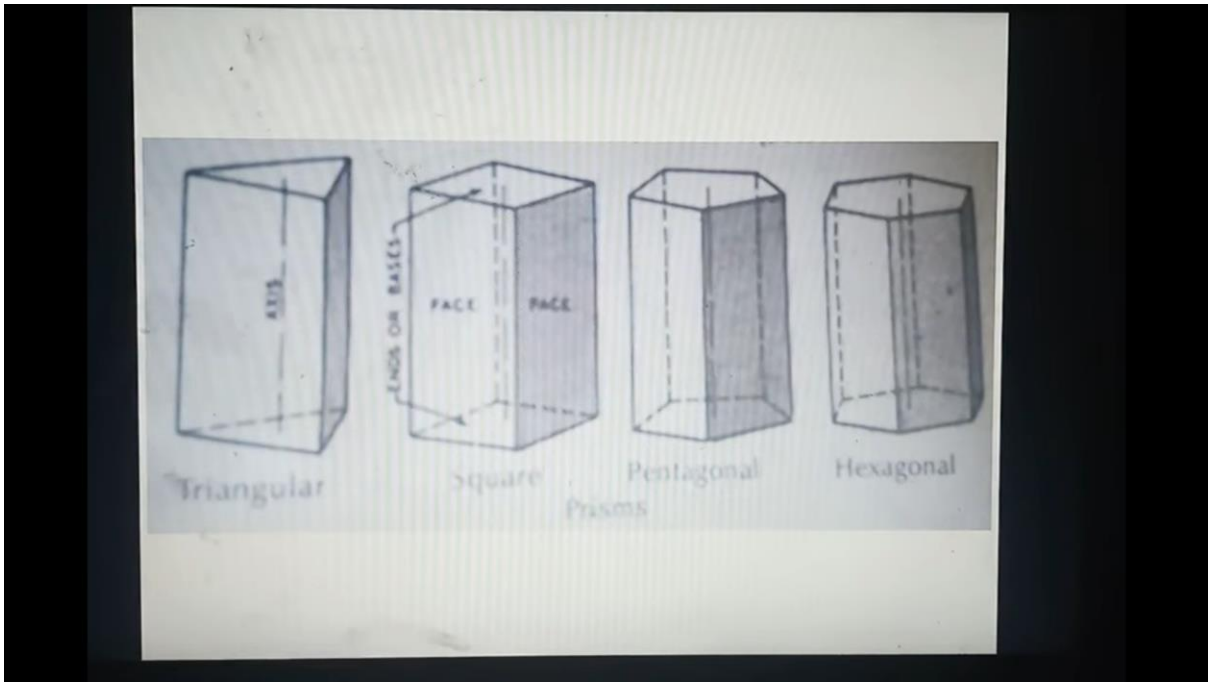
Ans.

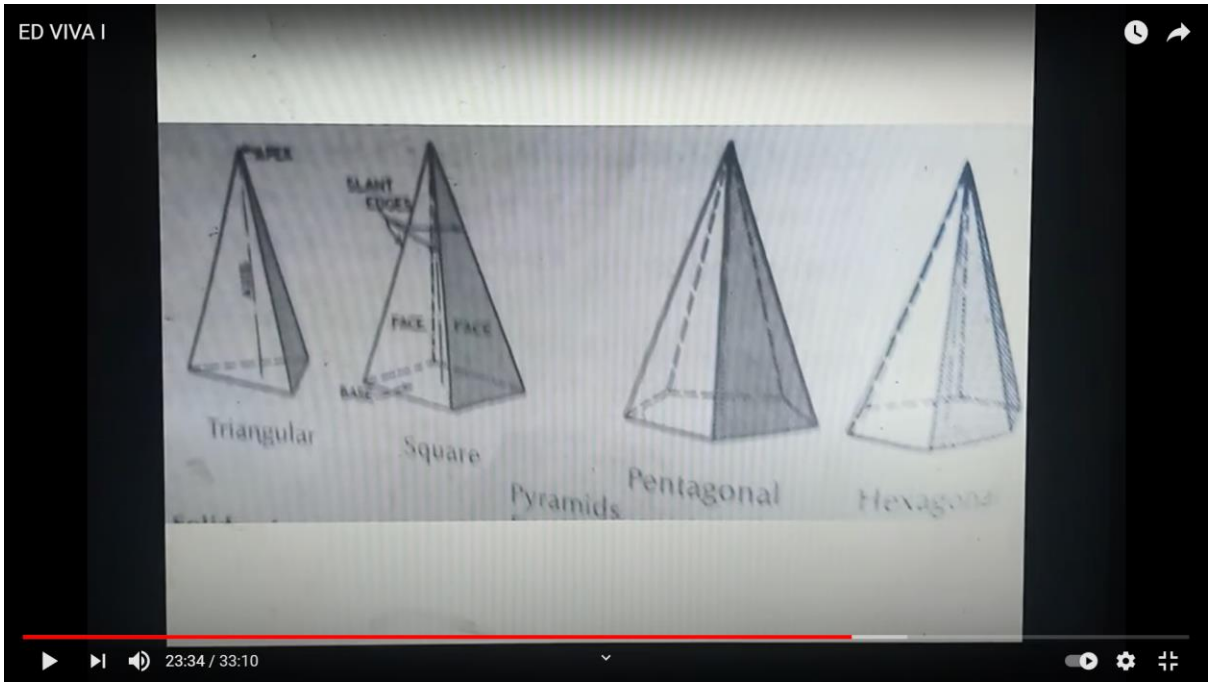
Ques 59. Difference in various figures in EG?

Ans.

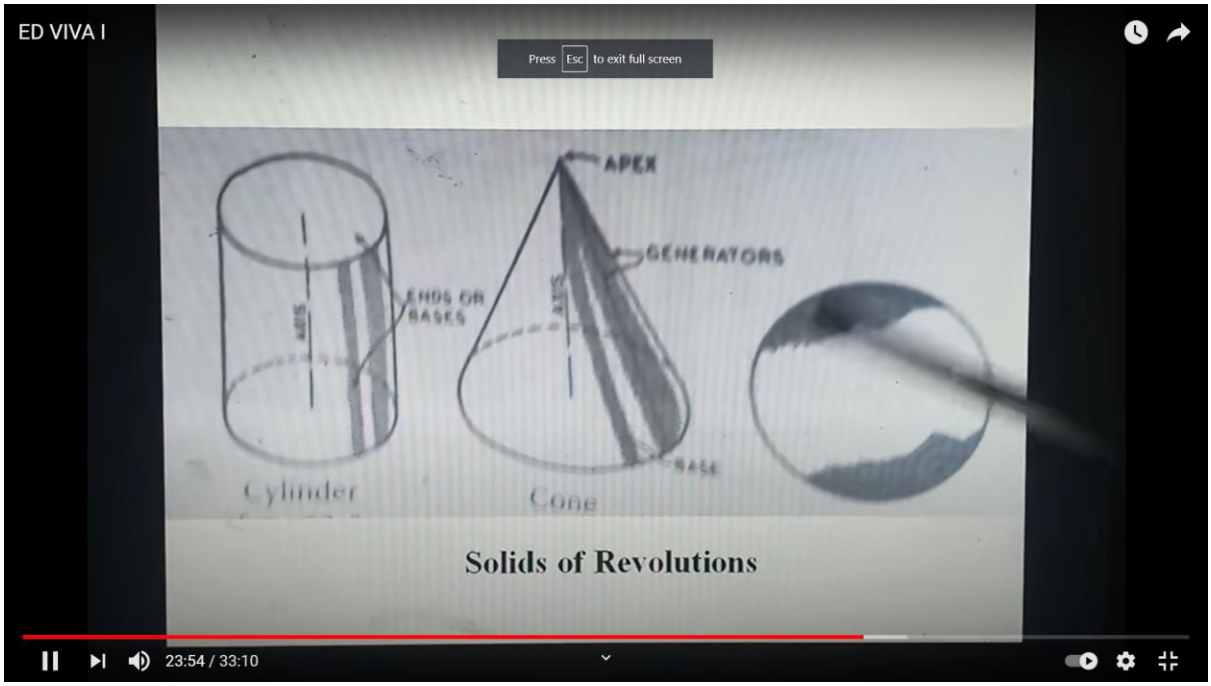



ED VIVA I
Press Esc to exit full screen
iangle.
Tetrahedron
Cube
22:50 / 33:10


AXIS
ENDS OR BASES
FACE
FACE
Triangular
Square
Pentagonal
Hexagonal
Prisms



Pyramid has no equilateral triangles but tetrahedron has equilateral triangles.



Ques 60. Difference in cylinder and cone.

Ans.

Ques61. Difference in frustum and concentric cone.

Ans.

Ques 62. What is plan in EG?

Ans.

Ques 63. How is an ellipse constructed?

Ans.

Ques 64. What is conic section?

Ans. When a cone is cut at different angles, the 2D figures which we obtain are called conic section.

Ques 65.

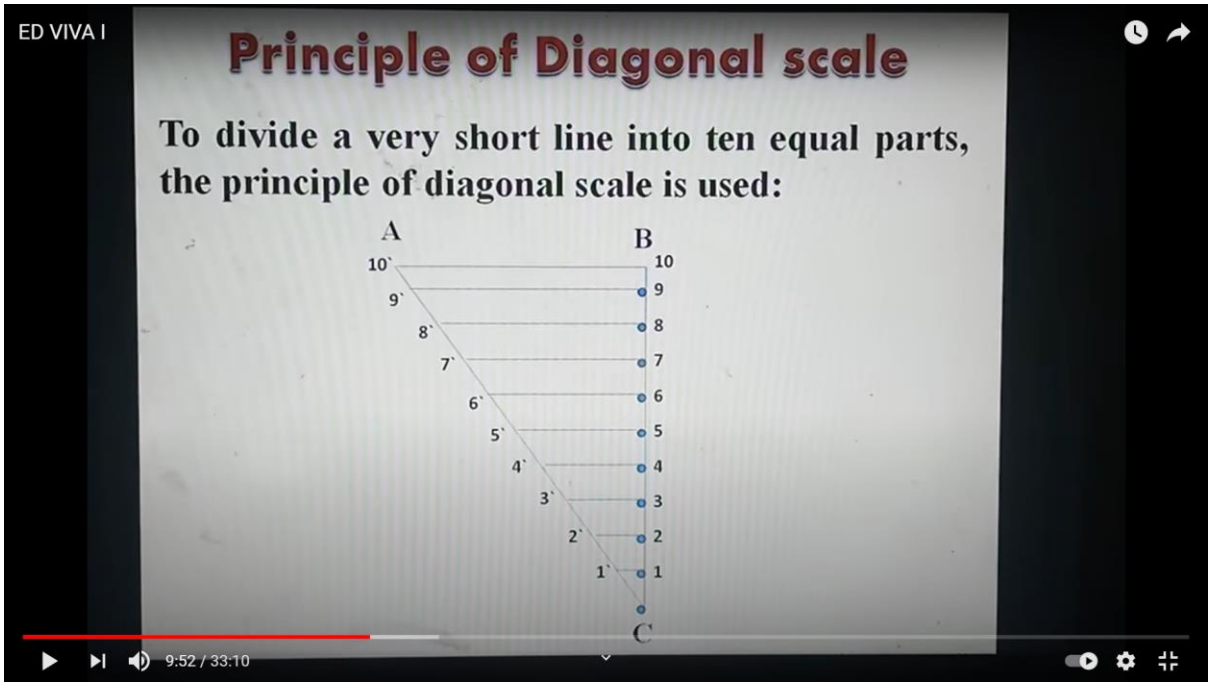
Ques 65. What is Engineering scale?

Ans. Engineering scales are used to draw an object on drawing sheet with some suitable proportion.

It means that when the object is very large w.r.t sheet than to draw an object its dimension need to be reduced in proper dimension.

Ques 67. How diagonal scale is used??(imp)

Ans.



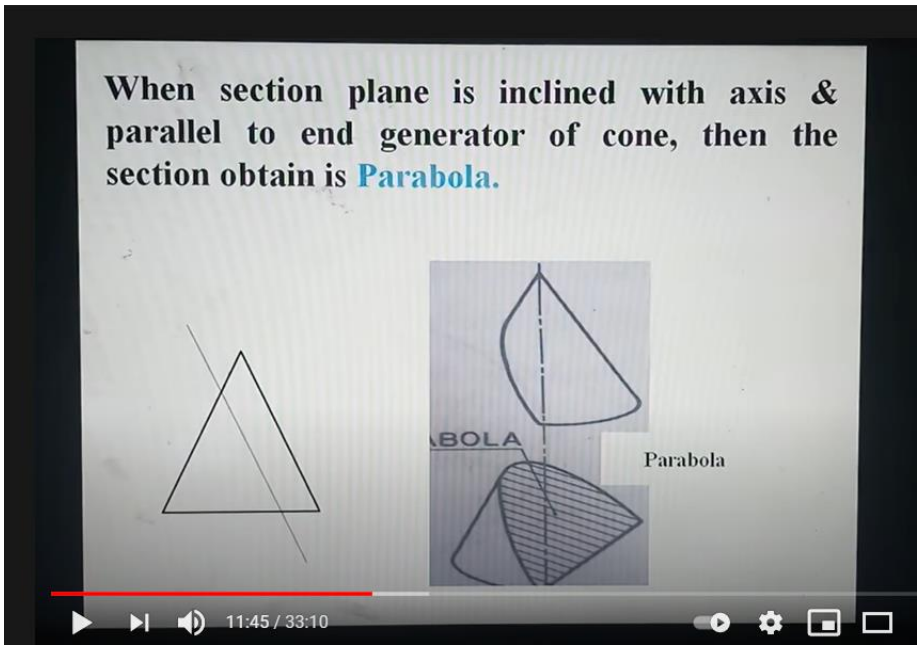
Ques 68. Unit conversion ??

Linear	Measure
1 CM	10 MM
10 DM	10 CM
1M	10 DM
1DC	10M
1HM	10DC
1KM	10 HM
1 FEET	12 INCHES
1 YARD	3 FEET
1 FURLONG	220 YARDS
1 MILE	8 FURLONGS

Ques 69. Which figure is obtained if a cone is cut at an angle ith its axis and also cuts its end generators?

Ans. Ellipse

Note-



Note- When section plane cuts the base as well as end generator on any side of axis, then the curve obtained is known as hyperbola. Axis is not cut in this case, ellipse is formed when axis is also cut.

Ques 70. What is eccentricity?

Ans. e= (Distance of a point from focus)**/(**Distance of a point from directrix)

Hyperbola e>1

Parabola e=1

Ellipse e<1

Circle e=0

Line e= infinite

Ques 71. Methods to draw Ellipse?

- Eccentricity or general method
- Concentric circle method
- Arcs of circle method
- Rectangular method
- Parallelogram method

Ques 72. Method to draw Parabola

Ans. Eccentricity and tangent method.

Ques 73. Method to draw hyperbola

Ans. Eccentricity and assymptotes method.

Ques 74. Which projection is used in INDIA?

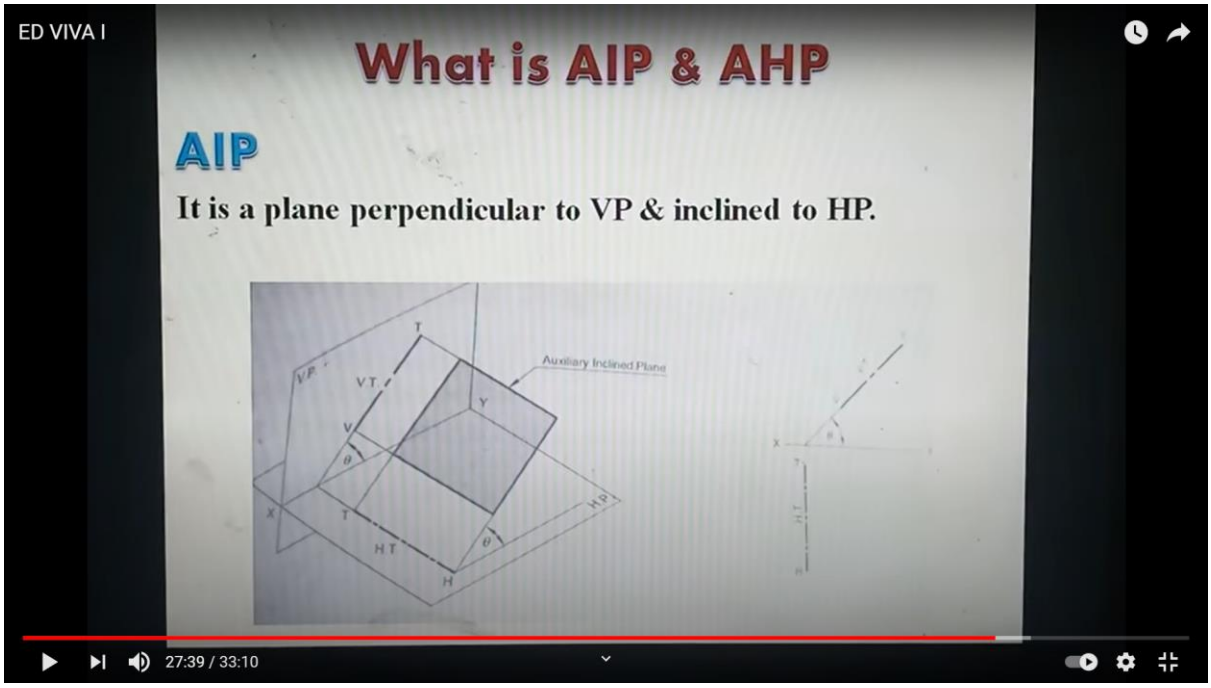
Ans. First angle projection , as per adopted by BIS(Beaureu of indian standards) in 1991.

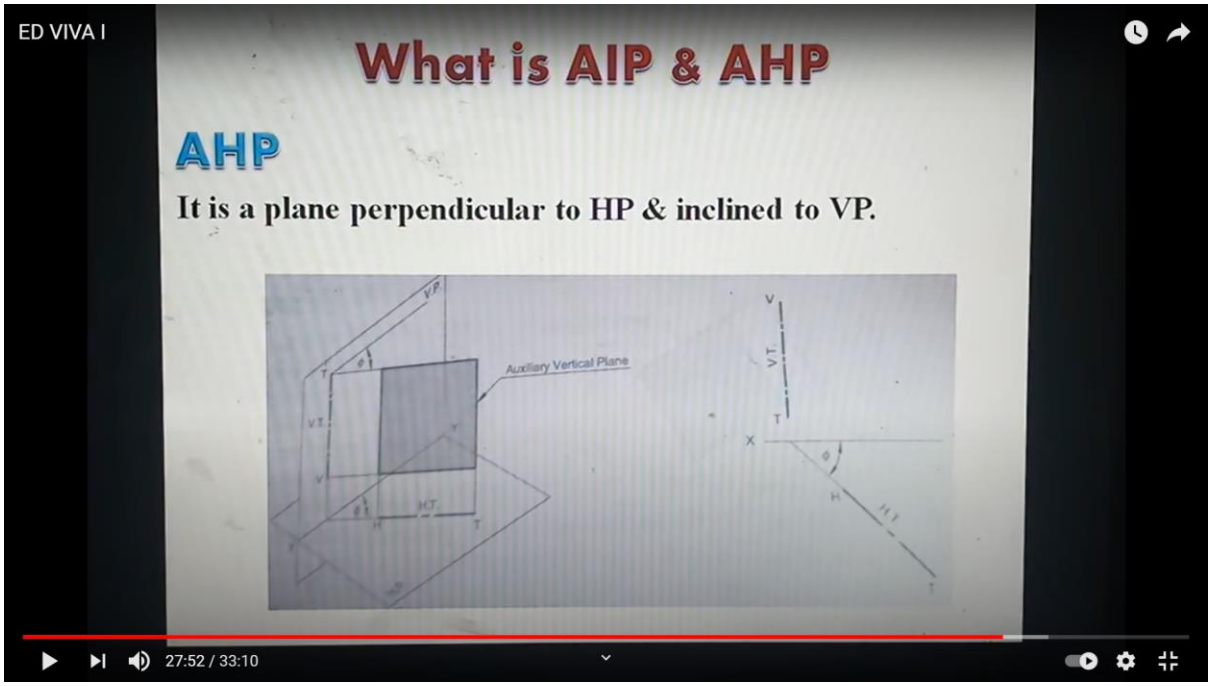
First Angle Third Angle

Ques 75. What is section of solids?

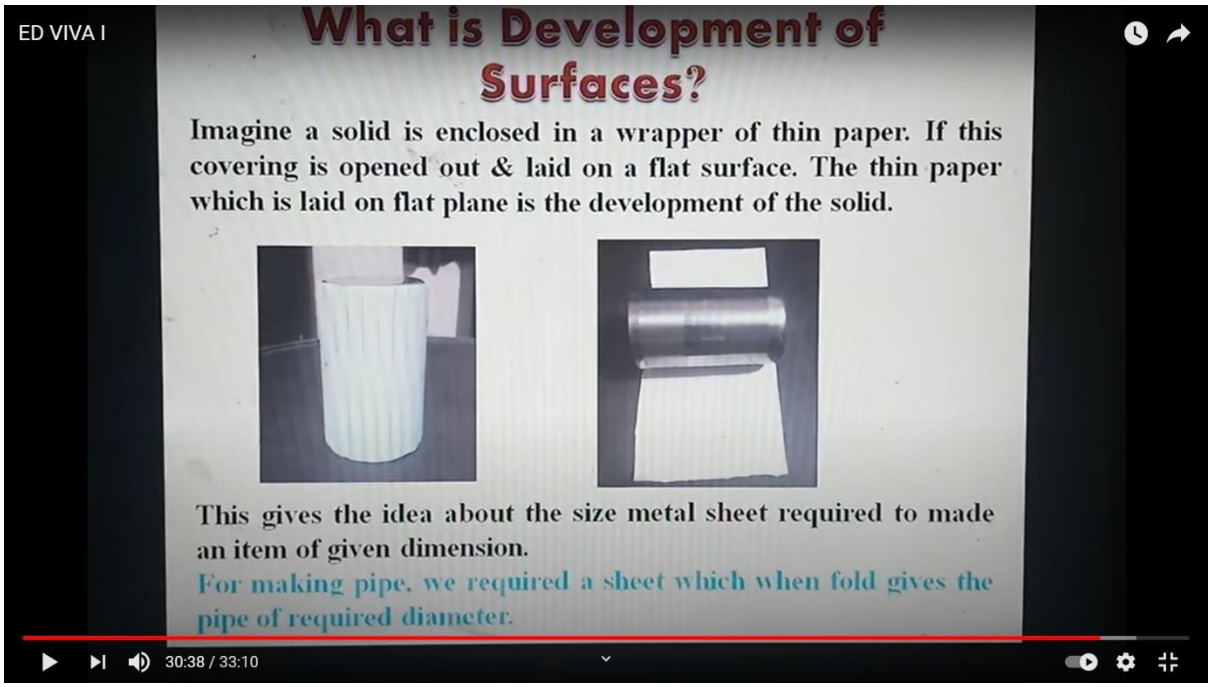
Ans. In projection, the portion which is not visible is shown by dotted line. But in many actual cases such features are too many, and these lines make figure more complex to understand. There to understand such figures, the solid is cut by an imaginary plane. The surface visible after cutting the solids are called as sections.

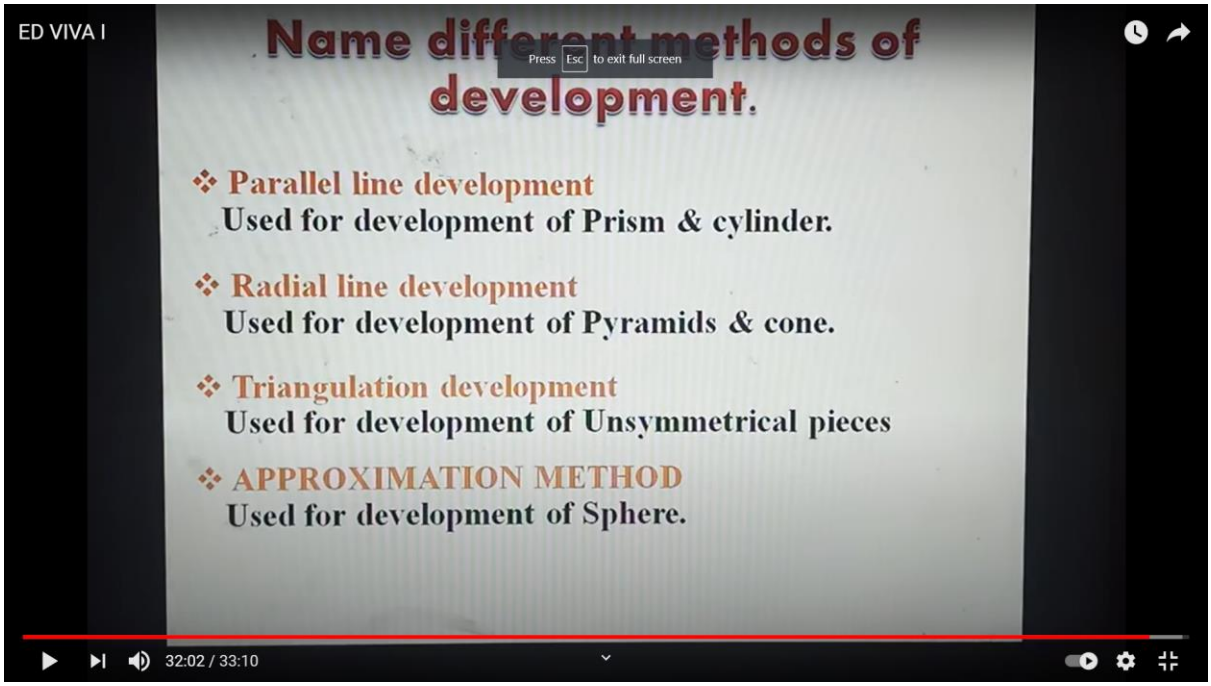
Ques 76.




ED VIVA I
What is AIP & AHP
AHP
It is a plane perpendicular to HP & inclined to VP.
Auxiliary Vertical Plane
27:52 / 33:10

Important


ED VIVA I
What is Development of Surfaces?
Imagine a solid is enclosed in a wrapper of thin paper. If this covering is opened out & laid on a flat surface. The thin paper which is laid on flat plane is the development of the solid.
This gives the idea about the size metal sheet required to made an item of given dimension.
For making pipe, we required a sheet which when fold gives the pipe of required diameter.
30:38 / 33:10



Ques 77. What is frustum of solid?

Ans. If a solid is cut by cutting plane parallel to the base of the solid and top part is removed, the remaining part is called frustum of solid.

NOTE- Cylinder is formed by revolving rectangle about one of its sides.

Ques 78. The sectional plane are represented by

Ans. Chain thin line having thick edges.

NOTE- development of sphere is by approximate method and zone method.

- Axonometric projection, oblique projection, Perspective projection are all methods of projecting the pictorial views.
- Link- https://drive.google.com/file/d/1mRXWFD3wiSR8Ekrv0eekz4YC4vQu6G6R/view