



INDIAN SCHOOL AL WADI AL KABIR

FINAL EXAMINATION (2023-2024)
Sub: ENGINEERING GRAPHICS (046)

Date: 22.02.2024

Max. Marks: 70

Class: XI

Time Allowed: 3 hours

General Instructions:

- (i) Attempt all the questions.
- (ii) Use both sides of the drawing sheet, if necessary.
- (iii) All dimensions are in millimeters.
- (iv) Missing and mismatching dimensions, if any, may be suitably assumed.
- (v) Follow the SP: 46 – 2003 revised codes. (with first angle method of projection)

20 x 1 = 20

SECTION – A

1. Which line is used to draw hidden edges?

- a) Continuous thin line
- b) Dashed line
- c) Construction line
- d) Continuous thick line

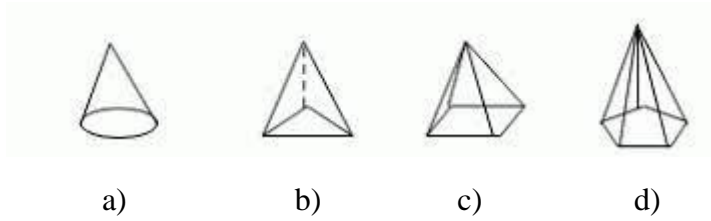
2. When a point lies in HP its view from the front will be _____

- a) On XY line
- b) Below XY line
- c) Above XY line
- d) None of these

3. The following are the Solids of revolution except _____

- a) Prism
- b) Sphere
- c) Cone
- d) Cylinder

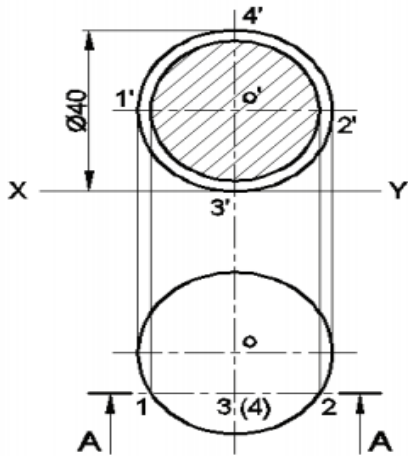
4. A vertical triangular pyramid



5. The front view of an object is also known as _____

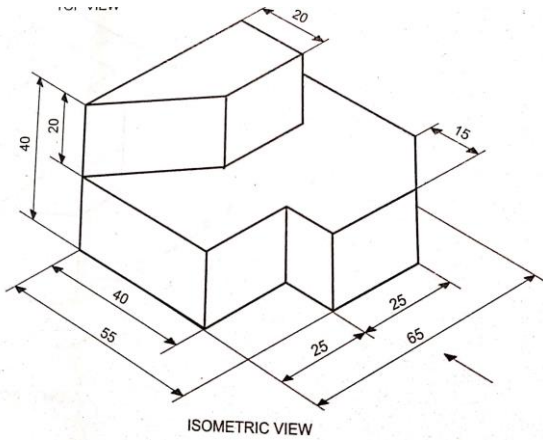
- a) elevation
- b) station point
- c) plan
- d) projectors

6. Which type of section plane is happening in this given figure?



- a) Vertical section plane
- b) Horizontal section plane
- c) Oblique section plane
- d) Inclined section plane

7. Identify which side view is viewable to the observer and where should we represent it?



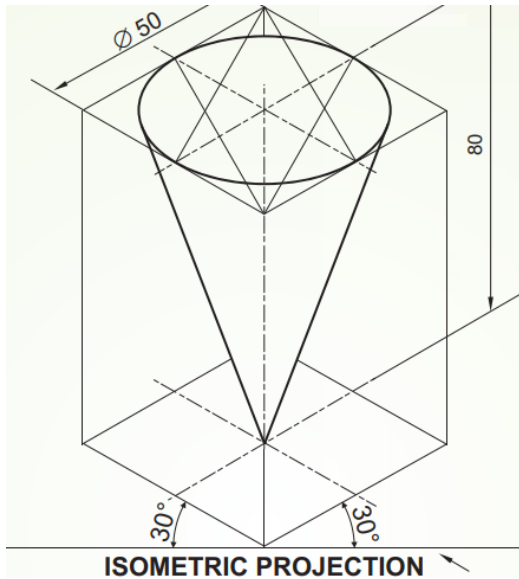
- a) Right side view and represent at left side of front view
- b) Left side view and represent at left side itself
- c) Right side view and represent at left side of top view
- d) Left side view and represent at right side of front view

8. Match the LIST I with LIST II

LIST I	LIST II
1. Above XY line	i. Top view
2. Prism	ii. Triangular faces
3. Below XY line	iii. Rectangular faces
4. Pyramid	iv. Front view

- a) 1-iii, 2-iv, 3-i, 4-ii
- b) 1-i, 2-iii, 3-ii, 4-iv
- c) 1-iv, 2-iii, 3-i, 4-ii
- d) 1-ii, 2-iv, 3-i, 4-iii

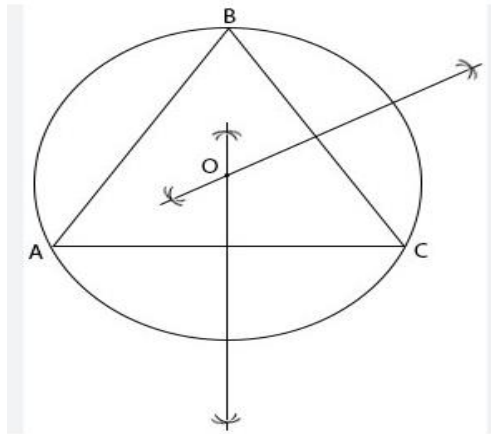
9. Choose the incorrect statement/s for the given figure.



- i) The figure shows an image of a vertical cone.
- ii) The figure shows an image of an inverted cone.
- iii) The front view of the figure will be an inverted triangle.
- iv) The axis of the figure is perpendicular to VP.

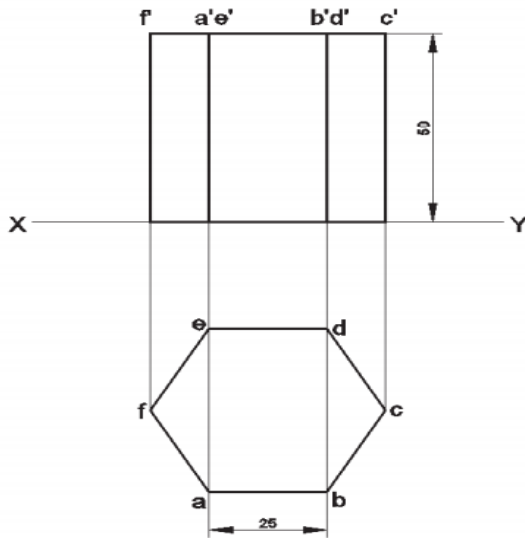
- a) (i) and (iii) only
- b) (ii) and (iii) only
- c) (i) only
- d) (i) and (iv) only

10. Analyse the figure given below and explain the process.



- a) Tangent
- b) Inscribing of circle
- c) Circumscribing of circle
- d) Secant

11. Identify the solid and the position of axis line from the given figure



- a) Hexagonal prism and axis perpendicular to HP
- b) Hexagonal pyramid and axis perpendicular to VP
- c) Triangular pyramid and axis perpendicular to VP
- d) Cylinder and axis perpendicular to HP

12. The lines which are parallel to the isometric axes are called _____

- a) Parallel lines
- b) Isometric lines
- c) Reference lines
- d) Non isometric lines

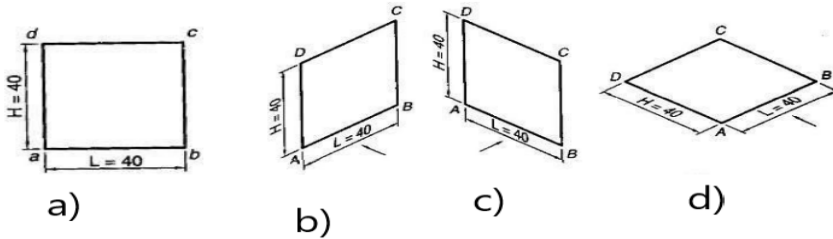
13. The hatching lines are inclined to the base line at an angle of _____

- a) 90 degree
- b) 45 degree
- c) 30 degree
- d) 15 degree

14. According to first angle method of projection, the front view is a circle and top view is a rectangle, the axis is perpendicular to VP. Name the three dimensional solid.

- a) Cone
- b) Pentagonal prism
- c) Cylinder
- d) Sphere

15. Identify the isometric projection of square lamina which is kept in HP



Q16. to 20: Read the following paragraph and answer the questions given below

Arjun loves to play football, and he is aspiring to win the Inter-school football championship this year, He is very passionate in the subject Engineering graphics and now he is learning about Orthographic projection and Isometric projection in his EG class, so he tried to sketch the front view of his football which resembles a circle of diameter 100mm. Then he tried to sketch the isometric projection of the circle with the same dimensions.



16. He used _____ in his isometric projection method.

- a) True scale
- b) Isometric scale
- c) Vernier scale
- d) Diagonal scale

17. Which method he has used to draw the isometric projection of a circle?
- a) Line rotation method
 - b) Trapezoid method
 - c) Four centre method
 - d) Parallel line method
18. If he constructs isometric scale, what will be the angles taken for true length and isometric length respectively?
- a) 30,45
 - b) 60,90
 - c) 45,30
 - d) 45,60
19. What will be the isometric projection of a circle?
- a) Sphere
 - b) Circle
 - c) Hemisphere
 - d) Ellipse
20. What is the angle difference between true length and isometric length?
- a) 30 degree
 - b) 90 degree
 - c) 15 degree
 - d) 60 degree

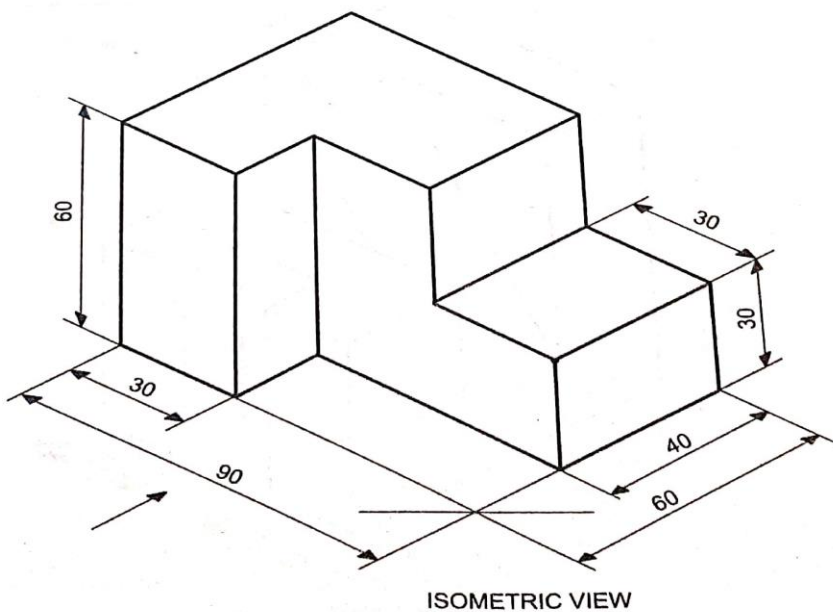
SECTION B

21. On a base $AB = 25$ mm long, to construct a regular hexagon with the compasses. (3)
22. Draw a given square whose diagonal is 60 mm. Circumscribe a circle above it. (3)
23. A thin horizontal hexagonal plate of 20 mm sides is inclined at 45° to the H.P. and perpendicular to V.P. two of its parallel edges is parallel to V.P. the plate is 10 mm above H.P. and 15 mm in front of V.P. Draw the projections of the plate. (5)

24. A cylinder of 50 mm base diameter and 60 mm axis rests vertically on HP on its base. It is sectioned by a plane perpendicular to VP, inclined at 45 degree to HP. And intersecting the axis at a point 15 mm below its top end. Project its front view and sectional top view. (5)

25. Draw the front view and top view of an equilateral triangular prism, base side 30mm and height 60 mm kept in the horizontal position, with one of its rectangular faces resting on HP and with axis parallel to both HP and VP. (7)

26. Project front view, side view and top view of the machine block, to scale 1:1 (7)



27. A cone of 50mm base diameter and 60mm, horizontal axis resting on HP with its axis parallel to HP and VP. It is cut by an oblique plane parallel to its generator, above the axis. Project its front view and sectional top view. (10)

28. a) Construct an isometric scale of 70mm. (4)

28. b) Draw the isometric projection of a regular hexagon of base side 30 mm in V.P. keeping two of its bases parallel to H.P. (6)
