# Indian School Al Wadi Al Kabir

## Assessment I (2024-2025)

Class: XI | Sub: Engineering Graphics (046) | Max. Marks: 70
Date: 29/09/2024 | Set - I | Time: 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)

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**20 x 1 = 20**

**SECTION – A**

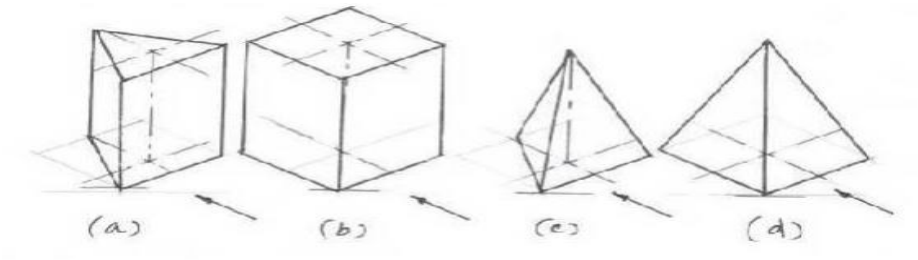
**Q.1 to Q.20: Answer the following multiple-choice questions. Print the correct choice on your drawing sheet.**

1. In metric system, the standard-length measure is ----------
   (a) Millimeter
   (b) Centimeter
   (c) Meter
   (d) Yard

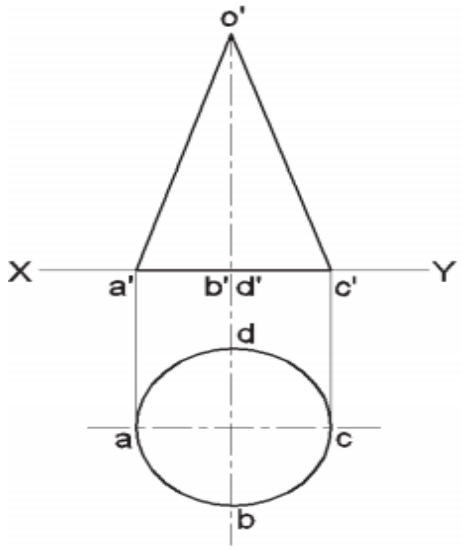
2. According to first angle method of projection, the front view of a solid is triangle and top view is hexagon, Identify the three dimensional solid?
   (a) Cone
   (b) Cylinder
   (c) Hexagonal prism
   (d) Hexagonal pyramid

3. When a right-angled triangle is revolved about one of its sides, then its hypotenuse will generate a ----------
   (a) Cylinder
   (b) Pyramid
   (c) Cone
   (d) Square

4. A vertical triangular prism with its axis perpendicular to HP and parallel to VP.

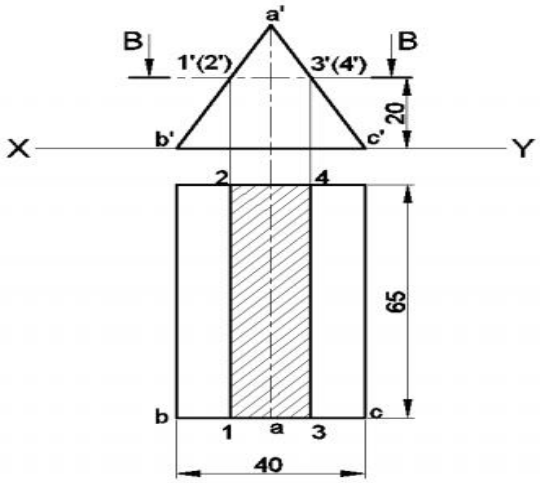



5. Identify the solid and the position of axis line from the given figure



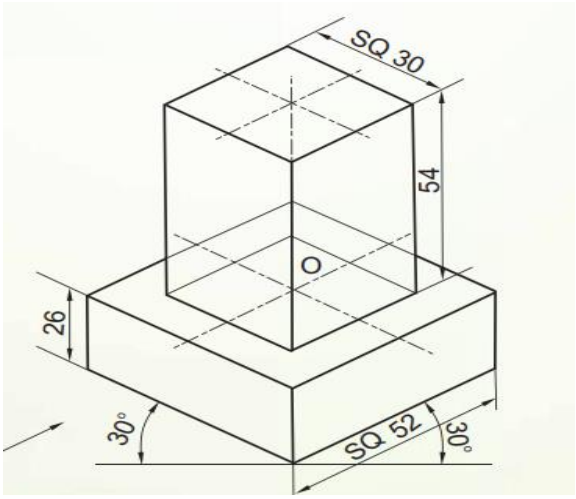

(a) Cone and axis perpendicular to HP
(b) Square prism and axis perpendicular to VP
(c) Triangular prism and axis perpendicular to VP
(d) Cylinder and axis perpendicular to HP

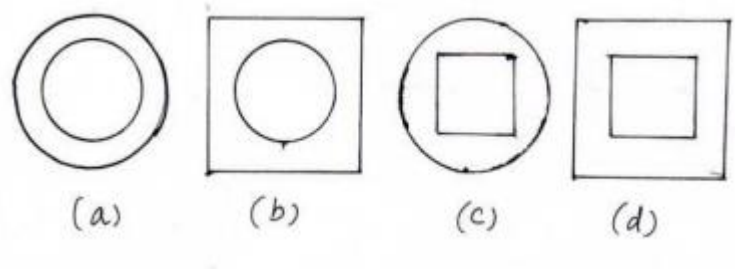
6. Which type of section plane is happening in this given figure?



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

7.Select the top view of the combination of solids



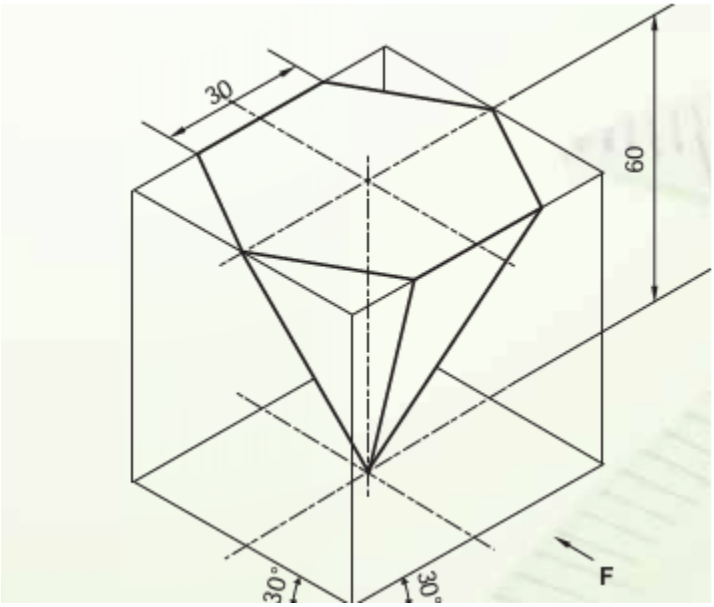




8. Match the LIST I with LIST II

| LIST 1: TYPES OF LINES | LIST II: DESCRIPTION OF LINES |
|---|---|
| 1.  | i. Centre line/Axis line |
| 2. ——— | ii. Hatching lines |
| 3. - - - - - - - - - | iii. Continuous thick line |
| 4. ——— – ——— – | iv. Dashed line/Hidden line |

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

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




(i) The figure shows an image of hexagonal prism
(ii) The figure shows an image of inverted hexagonal pyramid
(iii) The front view of the figure will be an inverted triangle
(iv) The axis of the figure is perpendicular to VP

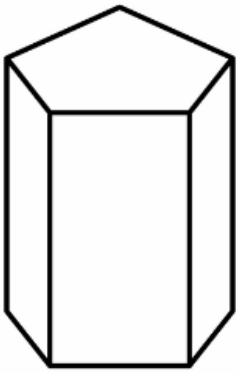
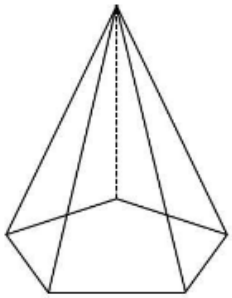
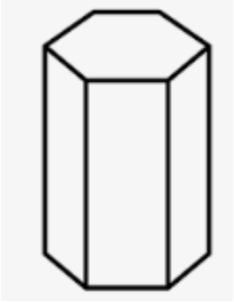
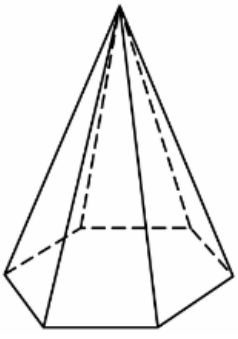
(a) (i) and (iii) only
(b) (i) and (iv) only
(c) (i) only
(d) (ii) and (iv) only

10. The cut/exposed surface, known as the section is represented by thin equidistant inclined lines (section lines) known as----------

(a) Hatching
(b) Highlighting
(c) Shading
(d) Coloring

11.---------- projection is called as multi view projection.
(a) Isometric
(b) Axonometric
(c) Oblique
(d) Orthographic

12. Match the LIST I with LIST II

| LIST 1: FIGURES OF 3 DIMENSIONAL SOLIDS | LIST II: NAMES OF SOLIDS |
|---|---|
| 1.  | i. Hexagonal prism |
| 2.  | ii. Hexagonal pyramid |
| 3.  | iii. Pentagonal prism |
| 4.  | iv. Pentagonal pyramid |

(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

13. To show the interior parts of a machine blocks, engineers adopted a new technique and it is called as ----------

(a) Sectioning
(b) Patching
(c) Dimensioning
(d) Fastening

14. An elevation of an object is ---------

(a) Front view
(b) Left side view
(c) Top view
(d) Right side view

15.The interior angles of a regular hexagon is ----------
(a) 120 degree
(b) 135 degree
(c) 108 degree
(d) 105 degree

**Q16. To Q.20: Read the following paragraph and answer the questions given below**

Jeena is an engineering graphics student of grade XI. She is very passionate with the subject EG. She tries to relate all daily life examples with the subject EG. One day she noticed her water bottle which is cylindrical in shape, suddenly she had an idea of sketching the different sectional views and orthographic views of the cylinder in her drawing book. Analyse the figure given below and answer the following questions.


16. The axis of the cylinder is ----------

(a) Perpendicular to VP
(b) Parallel to HP
(c) Parallel to both HP and VP
(d) Perpendicular to HP

17.What will be top view of the given solid?
(a) Triangle
(b) Rectangle
(c) Circle
(d) Square

18.If Jeena cuts the solid by a vertical section plane, where she has to draw the cutting plane?

(a) Side view
(b) Front view
(c) Top view
(d) Bottom view

19.The sectional view of the solid will be shown using ----------
(a) Hidden lines
(b) Hatching lines
(c) Cutting lines
(d) Double chain thin lines

20.The cutting plane is denoted by ----------

(a) Long chain thin line and thick at the ends
(b) Long chain thick line and thin at the ends
(c) One thick and one dotted
(d) Long chain thin line and dotted at the ends

## SECTION B

**2 x 3 = 6**

21. Construct a triangle FDE having its perimeter AB equal to 95 mm and its sides in the ratio 2:3:4.
22. Inscribe a circle in a regular hexagon whose side is given as 40 mm.

**2 x 5 = 10**

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.
24. A cylinder of base diameter 50 mm and height 70 mm is resting on its curved surface on HP such that the axis is perpendicular to VP. A section plane inclined to HP at an angle of 60°, passes through the axis and cuts the solid into two halves. Draw the Front View and sectional Top View.

**2 x 7 = 14**

25. Project the front view and sectional top view of a square pyramid 50 mm base edges and 60 mm high axis, resting vertically on HP on its base, with two edges of its base parallel to VP, sectioned by a plane perpendicular to VP and inclined to HP at 60 degree and intersecting the axis at a point 35 mm above its base.

26. A line AB has its end A, 5mm from VP and 10 mm from HP, and B is 40mm from HP and 25mm from VP. The distance between its end projectors is 50mm.Draw its front view and top view. Also find its true length and true length of inclination with HP and VP using trapezoid method. Follow the first angle method of projection.

**2 x 10 = 20**

27. A pentagonal prism having a 20 mm edge of its base and an axis of 50 mm length is resting on one of its rectangular faces with the axis perpendicular to the side plane(axis parallel to both HP and VP). Draw the projections of the prism.

28. A triangular pyramid of 40 mm base edges and 60 mm long horizontal axis, is resting on one edge of its base, which is right angles to VP (axis parallel to both HP and VP). It is sectioned by a horizontal plane above its axis. Project its front view and sectional top view.