



Indian School Al Wadi Al Kabir

Unit test (2025-2026)

Class: XII
Date: 25/05/2025

Subject: Engineering Graphics (046)
SET-1

Max. marks:30
Time: 1 hour

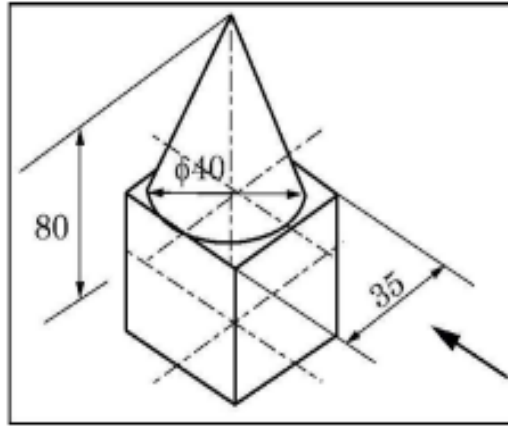
General Instructions:

- (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)
 - (vi) In no view of question 12, are hidden edges or lines required.
-

10 × 1 = 10

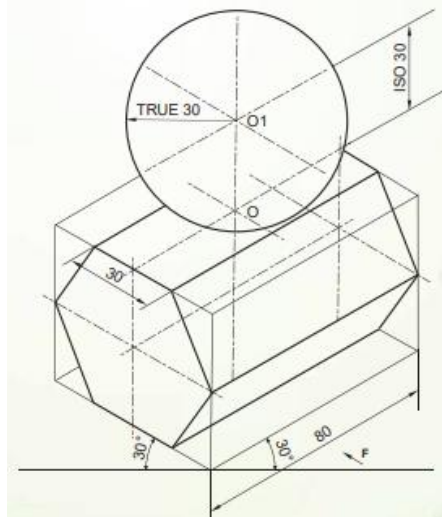
SECTION – A

1. ----- projection is widely used in engineering and design field.
 - (a) Perspective
 - (b) Isometric
 - (c) Oblique
 - (d) Orthographic
2. ----- is the distance moved by a nut or bolt in the axial direction in one complete rotation.
 - (a) Pitch
 - (b) Crest
 - (c) Lead
 - (d) Flank
3. The surface connecting crest and root is called as -----.
 - (a) flank
 - (b) pitch
 - (c) parallel thread
 - (d) taper thread
4. Select the correct option corresponding to the orientation of the given isometric projection.



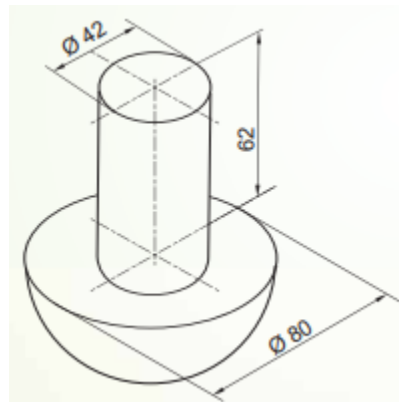
- (a) A cube is placed on a cone
- (b) A cone is placed on a cube
- (c) The axis of both the solids are vertical
- (d) Both b and c

5. Select the correct option corresponding to the orientation of the given isometric projection.



- (a) Spherical dimensions cannot be drawn in isometric projection
- (b) Spherical dimensions are foreshortened to 0.5 times in isometric projection
- (c) Spherical dimensions are foreshortened approximately 0.8 times in isometric projection.
- (d) Spherical dimensions are not foreshortened in isometric projection.

6. Select the correct option corresponding to the orientation of the given isometric projection.



- (a) A cylinder is placed centrally on a hemisphere with its common axis perpendicular to HP.
- (b) A cylinder is placed centrally on a cylinder with its common axis perpendicular to HP.
- (c) A cylinder is placed centrally on a hemisphere with its common axis perpendicular to VP.
- (d) A cylinder is placed on a cylinder with its common axis perpendicular to VP.

7. Match the LIST I with LIST II

| LIST I | LIST II |
|-------------------|---|
| 1.Knuckle thread | i. Unified thread |
| 2.Parallel thread | ii. Tangential semi circles |
| 3.Taper thread | iii. Thread formed on the surface of cylinder |
| 4.Metric thread | iv. Thread formed on the surface of cone |

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

Q8. to 10: Read the following paragraph and answer the questions given below

International fastener expo 2025 was being held at Lal Mahal, Pune. This year, everything you need to know about screw threads, temporary and permanent mechanical fastener technologies was available at the International Fastener Expo.

Rohit went for the expo with his father and saw some machine parts which he already learnt in his engineering graphics class.

8. Riveting and welding are examples of ----- fastening.

- (a) Permanent
- (b) Temporary
- (c) Parallel
- (d) Taper

9. Which thread is generally used in railway carriage coupling screws?

- (a) BSW thread
- (b) Metric thread
- (c) Square thread
- (d) Knuckle thread

10. Name the triangular or V-thread with a flank angle of 55 degree.

- (a) Square thread
- (b) BSW thread
- (c) Unified thread
- (d) Taper thread

SECTION B

11. Construct an isometric scale.

$$1 \times 4 = 4$$

$$1 \times 10 = 10$$

12. Draw the isometric projection of a cylinder of diameter 40 mm and axial length of 70 mm lying on the H.P. keeping its axis parallel to H.P. and V.P. both. Indicate direction of viewing and give all dimensions.

$$1 \times 6 = 6$$

13. Draw to scale 1:1, the standard profile of BSW thread, taking pitch = 50 mm. Give standard dimensions.