INDIAN SCHOOL AL WADI AL KABIR

UNIT TEST (2024-25)

CLASS: XII **Sub: ENGINEERING GRAPHICS (046)** **MAX.MARKS: 30**

DATE: 06-06-2024 **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 x 1 = 10

SECTION – A

1. Isometric, diametric, trimetric are the classifications of ---------- projection.

   a) perspective

   b) axonometric

   c) oblique

   d) orthographic

2. The nut and bolt together are called as ----------

   a) screw pair

   b) pitch

   c) lead

   d) flank

3. Which thread is called as a unified thread?

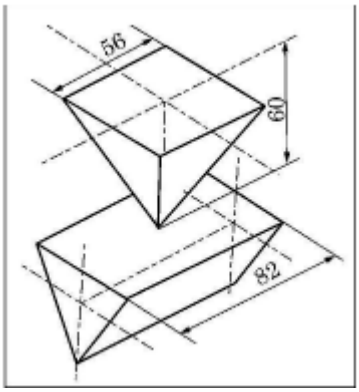
a) BSW thread

b) Metric thread

c) Square thread

d) Knuckle thread

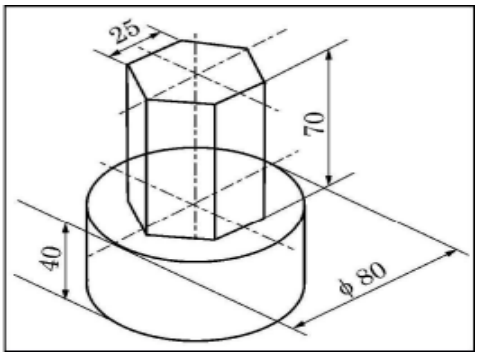
4. Analyse the figure and choose the correct statement/s for the given figure.



i) Both the solids are triangular pyramids.
ii) Both the solids are triangular prisms.
iii) Bottom solid is a triangular prism and top solid is a square pyramid.
iv) Bottom solid is a triangular pyramid and top solid is a triangular prism.

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

5. Select the correct statement/s for the given figure.



i) The axis of top solid is horizontal.
ii) The axis of bottom solid is horizontal.
iii) The common axis is vertical.
iv) The common axis is horizontal.

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

6. Select the correct sequence of drawing the isometric projection of a triangular pyramid placed centrally on top of a vertical square prism.

A. Draw three principal axes at 30°, 90° and 30° to the horizontal base line and copy the length of sides of helping figure's enclosing box on the respective principal axis and height of the prism on the third principal axis to form an enclosing box for square prism.

B. Draw the direction of viewing and do the dimensioning.

C. Draw the helping figure which is the base of vertical square prism (using isometric scale) and enclose it in a box, which is a square.

D. Copy the coordinates of the center and edges of square from the helping figure to enclosing box of square prism. Visible edges of square prism are joined by thick lines and axis of prism is drawn with chain line.

E. Draw the enclosing box for the base of triangular pyramid on the top surface of the prism and mark the coordinate points of the triangle inside the box. Mark the height of the pyramid (apex) from the centre of top surface of prism at 90°. Join the generators of the triangular pyramid.

a) B, D, A, C, E

b) C, A, D, E, B

c) A, B, C, D, E

d) D, E, B, A, C

7. Match the LIST I with LIST II

LIST I – TYPES OF THREADS	**LIST II – THREAD SPECIFICATIONS**
1.BSW thread	i) R = 0.25 P
2. Metric thread internal	ii) d = 0.61 P
3. Metric thread external	iii) d = 0.54 P
4.Knuckle thread	iv) d = 0.64 P

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-i, 3-iv, 4-iii

Q.8. to Q.10: Read the following paragraph and answer the questions given below.

John is an Engineering graphics student of grade XII. He is very passionate about the subject Engineering Graphics. He has studied Machine drawing in his class. One day he noticed some kinds of bolts and nuts which were fixed on his drawing table. He was very curious to know about them and the next day he asked about the same to his Engineering Graphics teacher. She explained everything about bolts and nuts.

8. Bots and nuts are examples of ---------- fastener.

a) permanent

b) temporary

c) parallel

d) taper

9. _____ is the distance between the corresponding points on the adjacent threads, measured parallel to the axis.

a) Lead

b) Pitch

c) Flank

d) Root

10. _____ is a continuous helical groove or ridge cut along the external surface of the cylinder.

a) External thread

b) Internal thread

c) Unified thread

d) Parallel thread

SECTION B

1 x 4 = 4

11. Construct an isometric scale of 80 mm.

1x10 =10

12. A Pentagonal prism of base side of 30 mm and axis length of 60 mm is resting on its face with its axis parallel to both H.P and V.P. Draw its isometric projection.

1 x 6 = 6

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