

Code: A-02

Subject: ENGINEERING GRAPHICS

Time: 4 Hours

DECEMBER 2006 Max. Marks: 100

NOTE:

1. (a) There are SEVEN questions in all and these are arranged in three Sections A, B and C.
(b) Sections A and B are compulsory and carry 20 marks and 32 marks respectively.
(c) Out of remaining 5 questions (of 16 marks each) in Section C students are required to answer any 3 questions.
2. Detach this sheet from the question paper and write answers on this sheet only on Pages 1 & 2. Attach it to the main drawing sheet. Remaining questions are to be answered on the main drawing sheet.
3. All dimensions given are in mm. Use suitable values of any missing and mismatching dimensions.
4. Use BIS Code: SP: 46-1988 for all drawings and do not rub off construction lines.

Roll No.....

SECTION A (Compulsory) – Marks – 20

Note : - Answer this on question paper itself and annex with the drawing sheet.

Q1. A. Choose the correct or best alternative in the following:
20)

(2 x 10 =

HERE

QUESTIONS

ANSWER

- a In the first angle projection, the left side view is
(A) on the left side of front view.
(B) on the top side of front view.
(C) on the right side of front view.
(D) on the bottom side of front view.

- b In orthographic projections, hidden edges are shown as
(A) continuous thick lines.
(B) continuous thin lines.
(C) thin chain line.
(D) thin dashed lines.

CENTRE STAMP

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shape of section when a cone is cut by a plane slightly inclined to the axis and not intersecting the axis

- (A) circle.
 - (B) ellipse.
 - (C) parabola.
 - (D) hyperbola.
-

d When the diameter of the directing circle is 50 cm and diameter of the rolling circle is 25 cm, a point on the rolling circle generates a curve known as

- (A) straight line
 - (B) epicycloid
 - (C) hypocycloid
 - (D) involute
-

e For a heavy duty square headed bolt, if d is the nominal diameter of bolt, the distance between the flats of the head is

- (A) $1.5 d$.
 - (B) $1.5 d + 3$ mm.
 - (C) $1.5 d + 4$ mm.
 - (D) $1.5 d + 5$ mm.
-

f A threaded fastener has same hand threads on both ends, the fastener is called

- (A) stud
 - (B) bolt
 - (C) foundation bolt
 - (D) eye bolt
-

Q1. B. Answer the following:

g A line connecting a note to a feature in a drawing is called?

h Which solid surface would be obtained by revolving a semicircle?

i Name the two recommended systems of placing a dimension?

j Name the curve generated by a point on thread which unwinds from a circle and remains taut.

SECTION B (Compulsory)

Q.2 Fig. 1 on page 4 shows the details of a Universal Coupling partly in section. Draw to full scale (1 : 1) the following views of the assembly:

- (i) Front view with top half in section.
- (ii) Left side view.

Give main dimensions. Print the title and draw the projection symbol.
(16+10+4+1+1=32)

SECTION C

Answer any THREE Questions. Each question carries 16 marks.

- Q.3** A rectangular plate of sides $25\text{ mm} \times 50\text{ mm}$ is resting on its shorter side on H.P. and the side is inclined at 30° to V.P. Its surface is inclined at 60° to H.P. Draw its projections. **(16)**
- Q.4** A hexagonal pyramid of base side 30 mm and axis length 60 mm is resting on H.P, on one of its base corners and two sides containing the corner are equally inclined to H.P. Its axis is inclined at 35° to V.P. and parallel to H.P. Draw its projections. **(16)**
- Q.5** A square prism of base side 30 mm and axis length 60 mm is resting on H.P. on one of its longer edges with its axis parallel to both H.P. and V.P. One of the faces containing the resting edge is inclined at 45° to H.P. It is cut by a plane inclined at 40° to V.P. and perpendicular to H.P. and is bisecting the axis. Draw the top view, sectioned front view and true shape of the section. **(16)**
- Q.6** Fig. 2 shows two orthogonal views of an object. Draw these two views and add the third missing view. Draw the isometric drawing of the solid. **(16)**
- Q.7** a. Draw the following rivet heads. Take the diameter of rivets as 24 mm. Show the dimensions of the heads.
 (i) snap head (ii) pan head (iii) flat countersunk head. **(12)**
- b. Draw two views of a castle nut. Take the nominal diameter of bolt as 24 mm. **(4)**

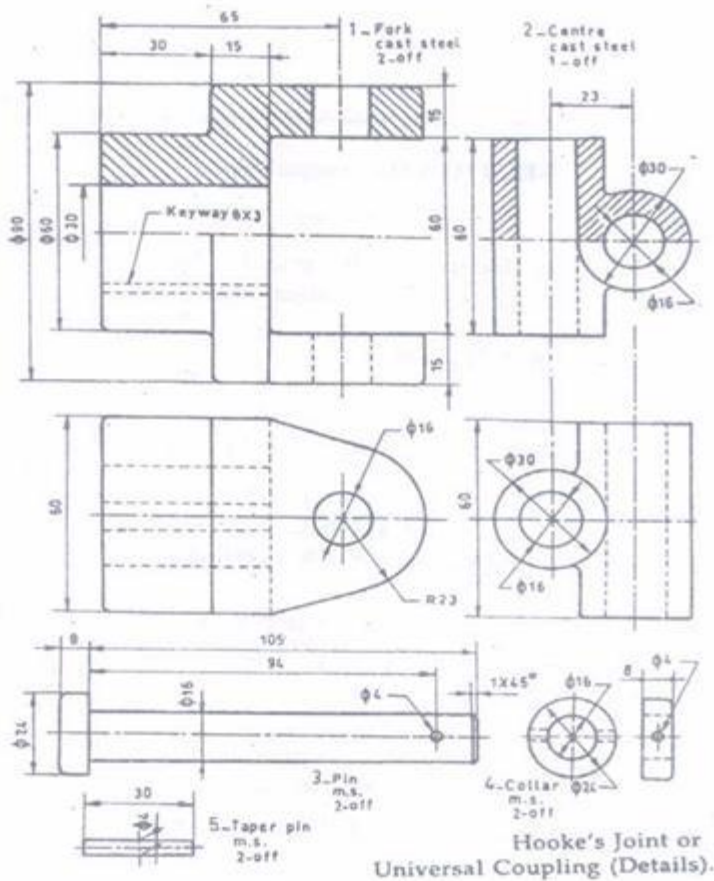


FIG-1

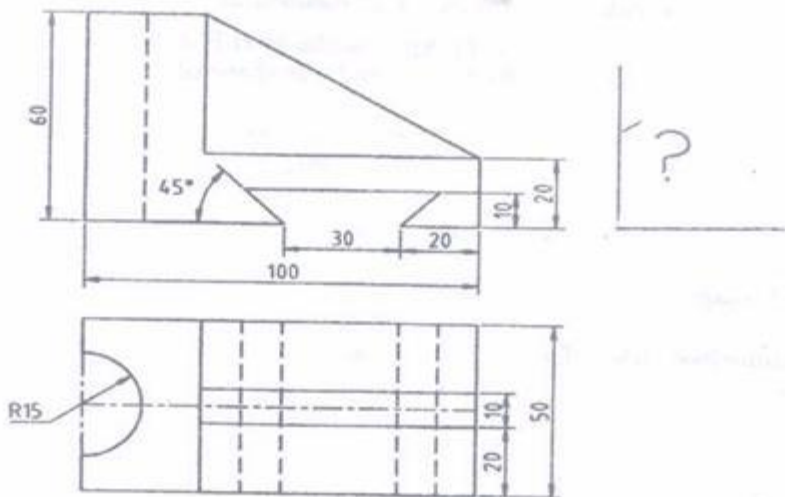


FIG-2

