

**Subject: ENGINEERING GRAPHICS****JUNE 2007****Time: 4 Hours****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 =**

<b><u>HERE</u></b>	<b><u>QUESTIONS</u></b>	<b><u>ANSWER</u></b>
a	True shape of the section can be obtained _____ to the section plane parallel (B) perpendicular (C) inclined at $45^\circ$ (D) None of these _____	(A)
b	16 square kilometers area is represented on a map by 1.0 sq. cm, the R.F. of the scale of the map is _____ (A) 400,000 (B) 400000 : 1 (C) 1 : 40,000	1 : _____

(D) 1 : 4000

\_\_\_\_\_

**CENTRE STAMP**

**Suptd/invigilator**

**Signature of**

- c The top view of a point is 30 mm above X-Y and Front view is 20 mm below X-Y line. The point is in \_\_\_\_\_ Quadrant.  
(A) I (B) II  
(C) III (D) IV  
\_\_\_\_\_
- d When a circle rolls without slipping around the outside of a fixed circle the locus of fixed point lying on the rolling circle is \_\_\_\_\_.  
(A) cycloid (B) ellipse  
(C) epicycloid (D) involute  
\_\_\_\_\_
- e \_\_\_\_\_ is the element used to transmit rotation between a shaft and the parts mounted on it.  
(A) key (B) cotter  
(C) rivet (D) none  
\_\_\_\_\_
- f On a double start thread, the lead is \_\_\_\_\_ the pitch.  
(A) equal to  
(B) twice  
(C) half of  
(D) none of these  
\_\_\_\_\_

**Q1. B. State whether True or False**

- g Development of a cone is a sector of circle.  
(A) TRUE (B) FALSE
- h The ratio of the circumferential and axial motions of a point, tracing a helix is constant.  
(A) TRUE (B) FALSE
- i A knuckle joint is used to join two pipes.  
(A) TRUE (B) FALSE
- j The line of intersection of a cylinder and cone is a straight line.  
(A) TRUE (B) FALSE

### SECTION B (Compulsory)

**Q.2** Fig. 1 on page 4 shows the isometric view of an object. Draw the following orthographic views. Take 1:1 scale

- (i) Front view looking from 'X'.  
(ii) Side view looks from 'Y'.  
= 32) (16+16)

### SECTION C

**Answer any THREE Questions. Each question carries 16 marks.**

- Q.3** The top view of a 60 mm straight line measures 40 mm while the length of its front view is 50 mm. Its one end A is in H.P. and other end B in V.P. Draw its projections and determine its inclination with H.P. and V.P. Show the traces and measure the distances of the traces from the reference planes. **(16)**
- Q.4** Construct a diagonal scale of 3:200 showing meters, decimeters, centimeters and the measure up to 6 meters. Show a distance of 4.56 m on the scale. **(16)**
- Q.5** A pentagonal prism 20 mm side of base and 50 mm high stands vertically with one of its rectangular faces parallel to V.P. and nearer to it. A section plane inclined at  $60^\circ$  to H.P. and perpendicular to V.P. passes through one of the extreme corners of the top face of the prism. Develop the lower portion of the

**Q.6** a. Draw the following rivet heads taking proportionate dimension. Take the nominal diameter = 24 mm.

(i) Button head  
(ii) Cone head

**(8)**

b. Draw two views of hexagonal headed nut and bolt using locking by split pin. Take the nominal diameter = 30 mm.

**(8)**

**Q.7** Construct a hyperbola, when the distance of the focus from the directrix is 65 mm and eccentricity is  $\frac{3}{2}$ .

**(16)**

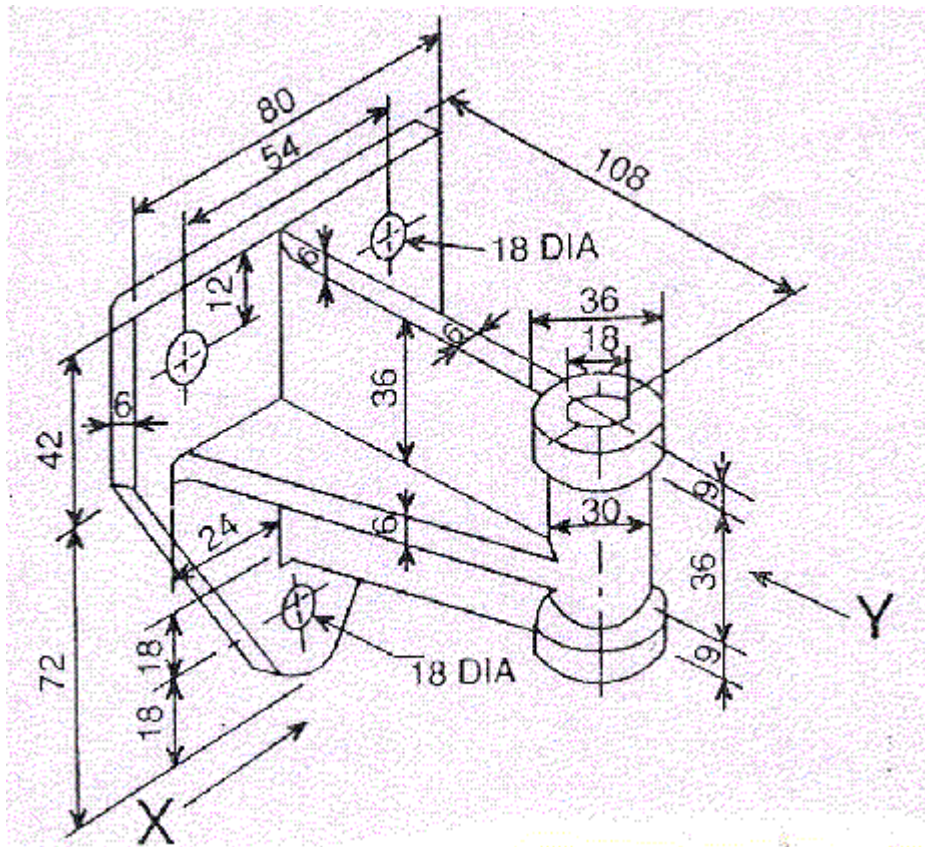


Fig. 1