DECEMBER 2004
Code: A-02   **Subject: ENGINEERING GRAPHICS**
Time: 4 Hours   **Max. Marks: 100**

NOTE:
    (a) (a) This question paper contains SEVEN questions. These are arranged in three Sections A, B and C.
    (b) (b) Sections A and B are compulsory and contain one question each. Answer any THREE questions from Section C.
    (c) (c) Section A carries 16 marks and Section B carries 42 marks. All other questions carry 14 marks each.
    (d) (d) 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.
    (e) (e) All dimensions given are in mm. Use suitable values of any missing and mismatching dimensions.
    (f) (f) Use BIS Code: SP: 46-1988 for all drawings and do not rub off construction lines.

Roll No.

SECTION A (Compulsory) – Marks – 16

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

Q1. Choose the correct or best alternative in the following:	**(2 x 8 = 16)**
QUESTIONS	**ANSWER HERE**

    a   The hidden edge of an object is shown by:
       (A) Thick line
       (B) Thin line
       (C) Thick dotted line
       (D) Chain thin line   _____

    b   If 5mm represents 1 km on a map, the representative fraction is

       (A) $\dfrac{1}{200}$

       (B) $\dfrac{1}{2000}$

       (C) $\dfrac{1}{20000}$

       (D) $\dfrac{1}{200000}$ _____

c   When a section plane is inclined to the axis of a cone and is parallel to any one of the generators, the shape of the section is
    (A) circle
    (B) ellipse
    (C) parabola
    (D) hyperbola   _____

d   A Lewis bolt is a
    (A) foundation bolt
    (B) tap bolt
    (C) eye bolt
    (D) stud bolt   _____

e   A cotter joint is provided for joining two rods which can transmit

    (A) (A) axial force
    (B) (B) rotating force
    (C) combination of axial and rotation force
    (D) normal force   .   _____

f   A rigid coupling is used for joining two shafts which

    (A) are inclined to each other.
    (B) have axes offset but parallel to each other.
    (C) have axes offset and also inclined to each other.
    (D) are in perfect alignment.   _____

g   Square headed bolts are used for fixing the cap of a Plummer block to the body

    (A) because there is no space for a hexagonal head.
    (B) because of ease of tightening with two different wrenches.
    (C) because of ease of tightening with one wrench only.
    (D) because such bolts are cheaper.   _____

h   If the height of a cone is equal to the diameter of the base circle, the shape of development of the cone is

    (A) (A) circle.
    (B) (B) semicircle
    (C) (C) right angled sector

(D) (D) triangle _____

SECTION B

Q.2 The details of a Plummer block are shown in Fig.1. Draw:
 (i) (i) Front view with left half in section.
 (ii) (ii) Left side view.
 Show overall dimensions. Print the title and draw the projection symbol.**(25+10+5+1+1=42)**

SECTION C
Answer any THREE Questions. Each question carries 14 marks.

Q.3 A regular hexagonal lamina of 25 mm side has a corner in the H.P. Its surface is
 inclined at 30º with H.P. and the diagonal through the corner on which it rests on
 H.P., makes an angle of 45º with the V.P. Draw its projection. **(14)**

Q.4 Draw the projection of a square pyramid with base side 30mm and axis 60 mm
 long resting on one of its edge of base in the H.P. with its axis inclined at 60º to
 V.P. and 25º to H.P. **(14)**

Q.5 A right circular cone of base diameter 50 mm and axial height 70 mm. is resting on its
 base in the H.P. It is cut by a plane peependicular to V.P. and at 60º to H.P. through
 the middle of the axis. Draw the sectional plan and development of the lateral surface
 of the truncated cone. **(14)**

Q.6 Draw an epicycloid generated by a rolling circle of diameter 30 mm. and the
 directing circle of diameter 150 mm. **(14)**

Q.7 Draw two views of a double riveted butt joint, chain riveting with two cover plates for
 joining two plates 9 mm thick. Show main dimensions. **(14)**

PLUMMER BLOCK
(DETAILS)   FIG-1