Code: AE02 **Subject: ENGINEERING GRAPHICS**
Time: 4 Hours **Max. Marks: 100**

DECEMBER 2010

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. Choose the correct or best alternative in the following: **(2 x 10 = 20)**

QUESTIONS	**ANSWER HERE**

a. If the Horizontal Trace (HT) of a line lies 24 mm above X-Y line, then its position will be

(A) 24 mm infront of V.P. **(B)** 24 mm above V.P.
(C) 24mm behind V.P. **(D)** 24 mm below V.P.

_____

b Triangulation method is used for developing _____

(A) Pyramids **(B)** Cylinders
(C) Prisms **(D)** Cube _____

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c. When the shafts are slightly misaligned then most suitable coupling to connect them is

(A) Rigid coupling **(B)** flexible coupling
(C) Oldham coupling **(D)** None _____

d. Rollers in a roller bearing are held in equally spaced position using

(A) Outer race **(B)** Inner race
(C) cage **(D)** rollers _____

e. Splines are used for mounting a gear on shaft

(A) True **(B)** False _____

f A hole in the cap of a plummer block on the top helps to escape excess lubricant

(A)) True **(B)** False _____

g The plain scales are constructed for reading lengths to the accuracy of

(A) 1 consecutive unit **(B)** 2 consecutive units
(C) 3 consecutive units **(D)** 4 consecutive units _____

h The point at which the conic cuts the axis is known as

(A) Base rim **(B)** end generator
(C) centre of the base **(D)** Vertex _____

i. Profiles used for spur gears are

(A) Epicycloid profiles **(B)** Hypocycloid profiles
(C) Thread profiles **(D)** Involute profiles _____

j If a circular plane is inclined to V.P. and perpendicular to H.P., its top view is a

(A) circle **(B)** ellipse
(C) line **(D)** none _____

SECTION B (Compulsory)

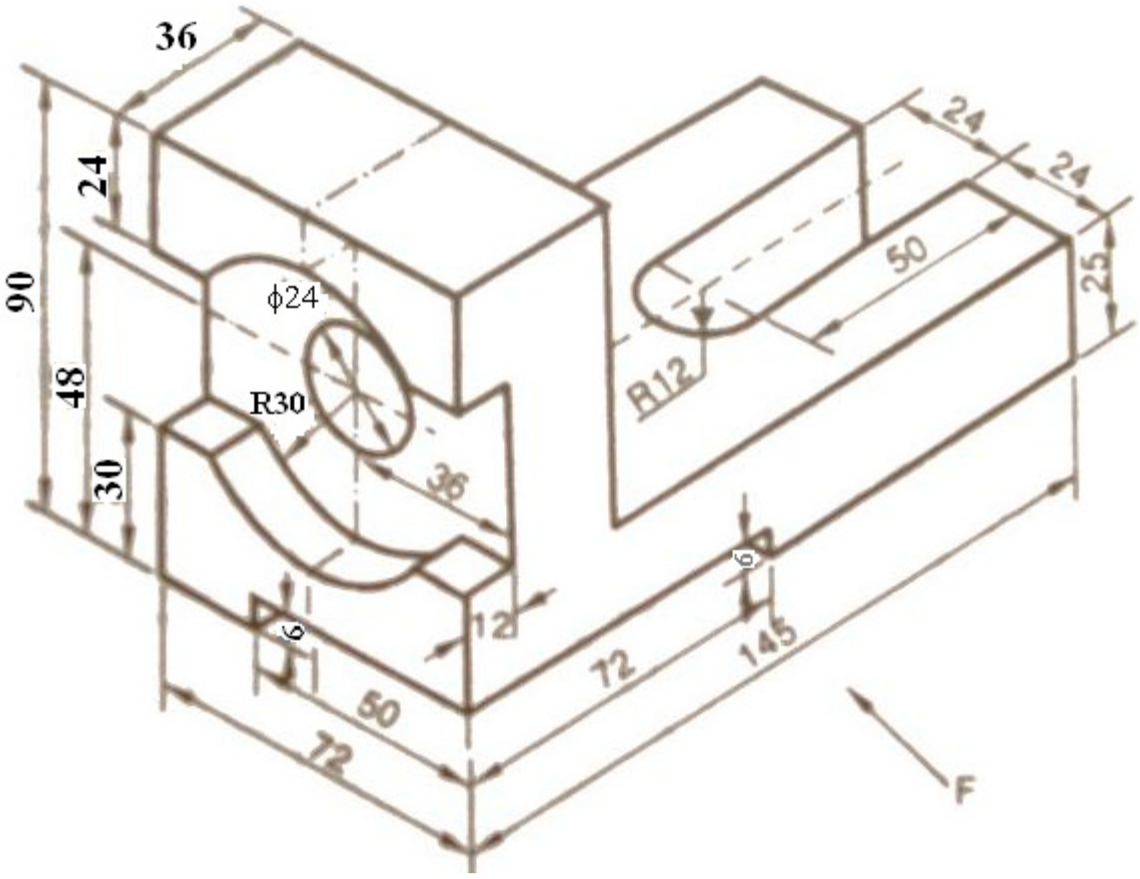
Q.2 Fig. shows the details of a machine component. Draw the following views to full scale size:

(i) Front view looking from the direction of 'F'

(ii) Left Side view

(iii) Top view

(12+08+12 =32)



SECTION C

Answer any THREE Questions. Each question carries 16 marks.

Q.3 A straight line AB 50 mm long is resting with its end A in both HP and VP. Line is inclined at 40^{o} to both the reference planes. Draw the projection of the line. **(16)**

Q.4 A tetrahedron of side 60 mm is standing with its base edge on HP in tilted position. The solid is tilted in such a way that the apex is 25 mm above HP. Draw the projections of tetrahedron in this tilted position. Measure the height of the solid. **(16)**

Q.5 A regular hexagonal lamina of side 20 mm, rest on one of its sides on HP su that it is perpendicular to VP and inclined to HP at 45º. Its corner nearest to the VP is 15 mm away from VP. Draw its projections in first angle. **(16)**

Q.6 A cone of base diameter 30 mm and height 40mm is resting vertically on a square block of base side 40 mm and height 15mm. Square block is resting with its base on HP. Axis of both solids coincides. Draw the isometric projection of the combined solids. **(16)**

Q.7 a. Construct a diagonal scale to read meter, decimeter and centimeter. Mark a distance of 6 meter, 5 decimeter and 3centimeter on it. Take scale 1:60 **(8)**

b. Two plates of thickness t= 12 mm and diameter of rivet hole 'D' are required to be joined with a double rivet butt joint (zig-zag riveting). Draw its top and front view. **(8)**