Seat No: - _____

GANPAT UNIVERSITY
B. TECH. (CE/IT/EC/BM&I) SEM. I
CBCS REGULAR EXAMINATION NOV./DEC.-2012
ME 102 ENGINEERING GRAPHICS

[Time: 3 Hour] [Total marks: 70]

Instructions:

(1) All questions are compulsory.
(2) Right figure indicate full marks.
(3) Retain all the construction/ projection lines.
(4) Figures drawn in the question paper are not to the scale.
(5) Use your own judgment of dimensions which are not given.
(6) All dimensions in the sketches are in mm.

SECTION-I

Que.1 The pictorial view of an object is shown in **fig.-1.** Draw F.V., S.V. and T.V. of the object using 1st angle projection method. **[12]**

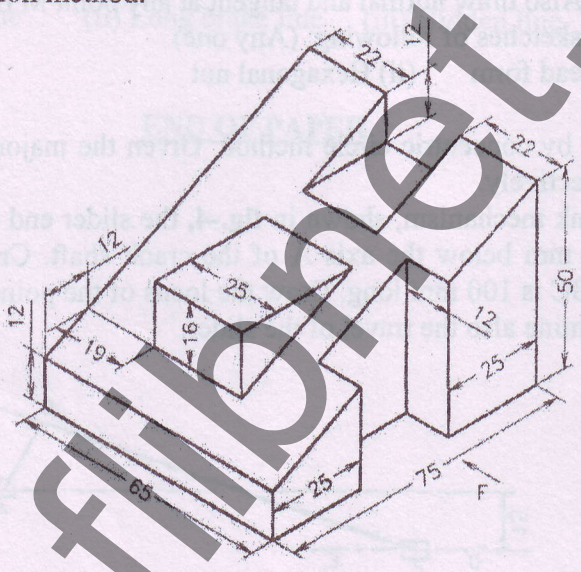

Fig.-1

OR

Que.1 Using 3rd angle projection method, draw Sectional Front View along A-A, Right Hand Side View and Top View of the object shown in **fig.-2.** **[12]**

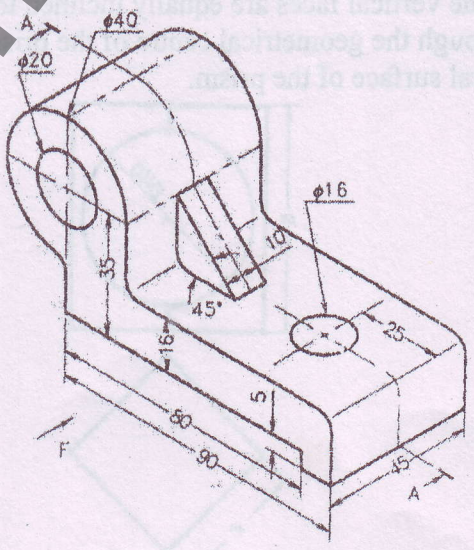

Fig.-2

Que.2 Front view, side view and top view of object are shown in fig.-3. Draw its isometric view.

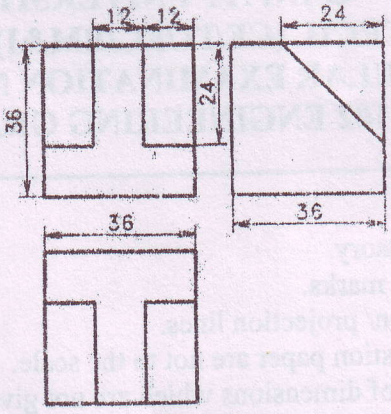

Fig.-3

OR

Que.2

(A) Draw an epicycloid having a generating circle of diameter 50 mm and a directing curve of radius 100 mm. Also draw normal and tangent at any point M on the curve. **[8]**

(B) Draw free hand sketches of following: (Any one) **[3]**

(i) Square thread form (ii) Hexagonal nut

Que.3

(A) Draw an ellipse by concentric circle method. Given the major and minor axes as 120 mm and 80 mm respectively. **[06]**

(B) In the offset crank mechanism, shown in fig.-4, the slider end C moves in the guides along the line DE, 15 mm below the axis A of the crank shaft. Crank AB is 20 mm long and connecting rod BC is 100 mm long. Draw the locus of the point P, 35 mm from B along CB produced. Determine also the travel of the slider. **[06]**

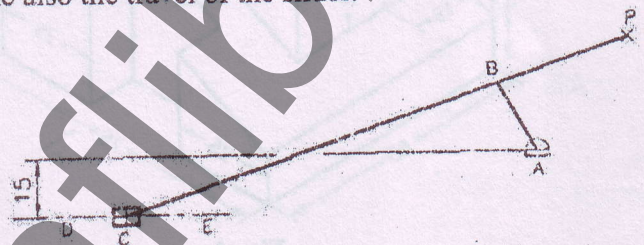

Fig.-4

SECTION – II

Que:4 As shown in fig.-5, a square prism of 40 mm side length and 60 mm height rests on its base upon H.P., such that the vertical faces are equally inclined to V.P. A horizontal hole, 40 mm diameter is drilled through the geometrical centre of the prism with the axis perpendicular to V.P. Develop the lateral surface of the prism. **[12]**

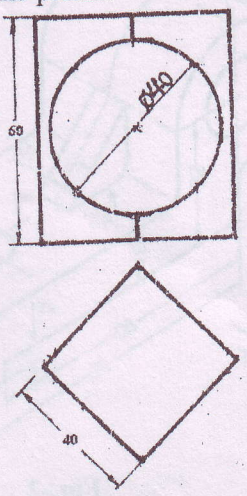

Fig.-5

OR

Que:4 A hexagonal plane of 30 mm side stands with one of its edges parallel to and 16 mm in front of V.P., such that the surface is 40° inclined to V.P. If the edge parallel to V.P. is inclined at 50° to H.P., draw the projections of the plane. **[12]**

Que:5 A square prism of base edge 28 mm and axis 56 mm rests upon H.P. on one of its base corners, such that its axis is inclined at 30° to H.P. and the base edges forming the resting corner are equally inclined to H.P. If the axis is inclined 45° in the top view, draw its projections. **[11]**

OR

Que:5 A cylinder, diameter of base 43 mm and height 58 mm is resting on H.P. on its base. It is cut by A.I.P. inclined at 45° to H.P. bisecting the axis. Draw three projections with section and find the true shape of section. **[11]**

Que:6

(A) A line AB, 60 mm long has its end A in the H.P. and 20 mm in front of V.P. If the line is 45° inclined to H.P. and 30° inclined to V.P., draw its projections. **[8]**

(B) Sketch following lines and write their uses.(Any two) **[4]**

(i) Cutting Plane line (ii) Long brake line (iii) Hidden line

END OF PAPER