morning.
Date: 22/05/2014.

Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester:-II (ME/MC/EE/CIVIL) Engineering

CBCS Regular Examination May – June 2014

Subject:-2ME102 Engineering Graphics

Time: 3 Hours **Total Marks: 70**

Instruction:

1. All questions are compulsory
2. Figures to the right indicate full marks
3. Answer of the two sections must be written in separate drawing sheet
4. All dimensions are in mm and figures drawn in the question paper are not to the scale
5. Assume all necessary data

Section – I

Que. – 1 (A) Draw the curve with help of Directrix-Focus method by keeping eccentricity ratio 3/4 and maintaining 63 mm distance of focus from the directrix. 6

(B) Construct one complete turn of an involute of a hexagon of 25 mm side. 6

OR

Que. – 1 (A) Draw an Archimedian Spiral of 1.5 convolution,the greatest and the least radii being 125 mm and 35 mm respectively. Draw tangent and normal to the spiral at a point 85 mm from the pole. 6

(B) Draw pentagon of 40 mm base side with help of three circle method 6

Que. – 2 (A) In a slider crank chain OBA, the crank OB is 350 mm long and the connecting rod BA is 1050 mm long .plot loci of points P,Q and R where (i)Point P is on the connecting rod 350 mm from B, (ii)Point R is on extension of connecting rod BA and 250 mm from A (iii)Point Q is on extension of connecting rod AB and 500 mm from B ,see fig -1 11

OR

Que. – 2 (A) In fig -2 the Top view and Front view of an object is given. Draw its isometric view. 11

Que. – 3 Draw the F.V and T.V of given object (see fig-3) using first angle projection method 12

Section – II

Que. – 4 (A) A line MN 65 mm long is inclined to H.P by 30^0 and inclined to V.P by 45^0 .The end M is 20 mm below H.P and 25 mm behind V.P Point N is in third quadrant. Draw its Projection and find the position of the point N. 6

(B) A line CD, 80 mm long, has its end C 20 mm behind V.P and 30 mm below H.P. while its end D 60 mm behind V.P and 50 mm below H.P Draw the projection of line CD and find its true inclination with H.P and V.P 6

OR

Que. – 4 (A) Draw the projections of a circle of 70 mm diameter resting on the H.P on a point A of the circumference. Plane is inclined to the H.P such that the plan of it is an ellipse of minor axis 40 mm. The plan of the diameter, through the point A is making an angle of 45^0 with the V.P Measure the angle of the plan with H.P 6

(B) A pentagonal plate, side 25 mm is resting on H.P. on one of its corner with opposite edge to the corner making 30^0 with V.P the plate is inclined to H.P by 45^0 . Draw the projection 6

Que. – 5 (A) A square prism,side of base 50 mm and height 75 mm, is resting on H.P. on its base with all vertical faces equally inclined to V.P. It is cut by A.I.P. inclined at 45^0 to the H.P. Passing through a point 55 mm above the base of axis. Draw elevation, sectional plan and true shape of cut section. 11

OR

Que. – 5 (A) A right regular pentagonal pyramid having 30 mm side and 60 mm height of axis is resting on H.P. on its base with one of the sides of base perpendicular to V.P. pyramid is cut by a Cutting plane passing through mid point of axis and makes an angle of 60^0 with H.P. Draw the Development of cut pyramid. 11

Que. – 6 A Hexagonal pyramid of 30 mm side of base and 45 mm length of axis is resting on one of its triangular faces on H.P. Draw the projections of the pyramid when its edge of base which is in H.P. is inclined at 60^0 to the V.P. 12

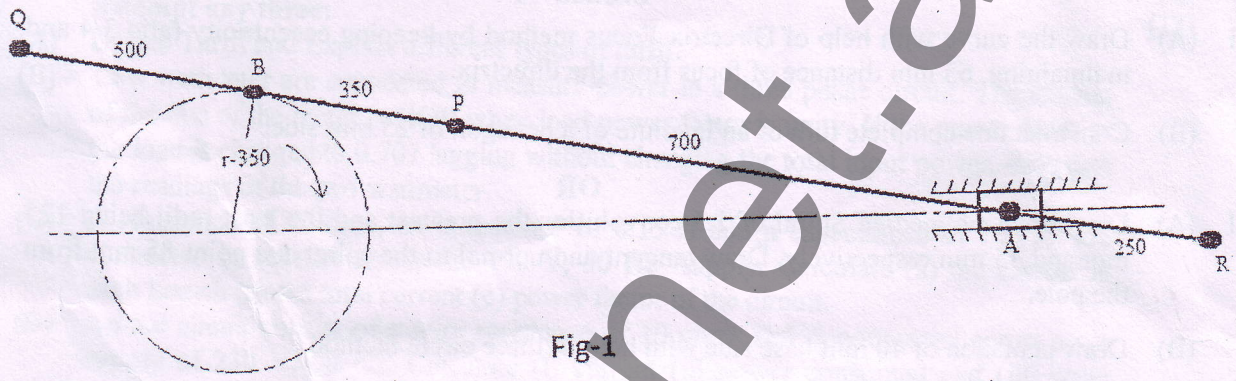

Fig-1

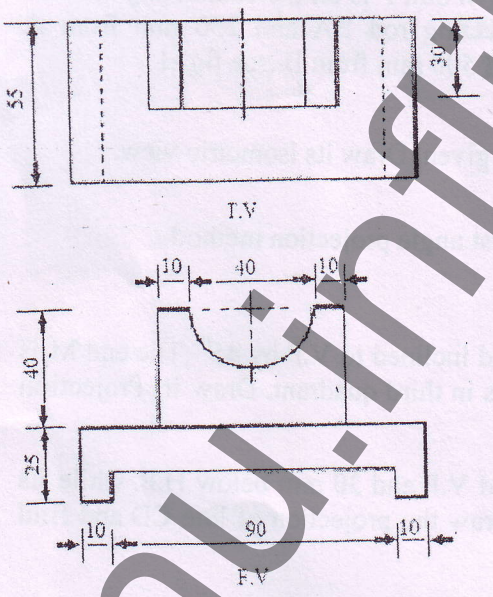

Fig-2

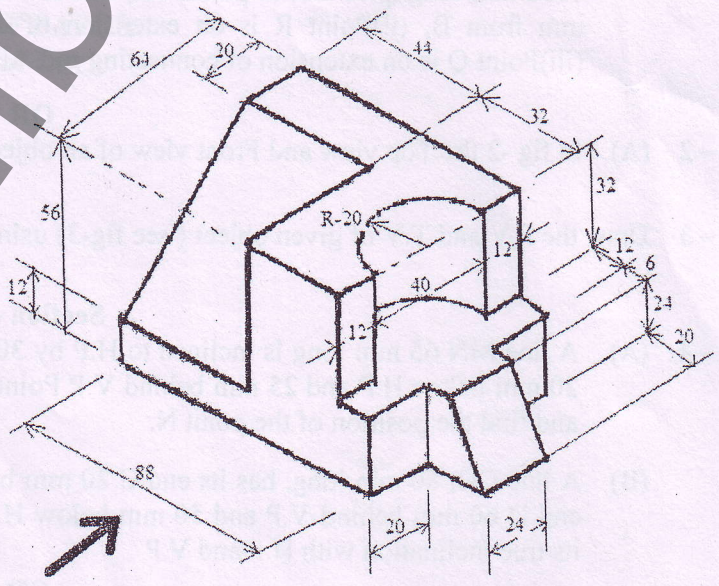

Fig-3

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