

**C.U.SHAH UNIVERSITY**

Wadhwan City

Subject Code 4TE02EGC1

Summer Examination-2014

Date: 2/06/2014

Subject Name: **Engineering Graphics and CAD**

Branch/Semester:-B.Tech /II

Time:2:00 To 5:00

Examination: Regular

**Instructions:-**

- (1) Attempt all Questions of both sections in same answer book / Supplementary
- (2) Use of Programmable calculator & any other electronic instrument is prohibited.
- (3) Instructions written on main answer Book are strictly to be obeyed.
- (4) Draw neat diagrams & figures (If necessary) at right places
- (5) Assume suitable & Perfect data if needed

**SECTION-I**

- Q-1 (a) Define Representative Fraction. Construct a plain scale of R.F.= 1:100 to show meters and decimeters and long enough up to 10 meters. Indicate 8 m 7dm distance on scale. 04
- (b) A circular disc of 72 mm diameter rotates about its centre in the clockwise direction. While the disc completes one revolution, an insect walks across the diameter of the disc. Plot the locus of the insect, assuming both the rotation of disc and movement of the insect as uniform. 03
- Q-2 (a) A circle of 50 mm diameter rolls along the circumference of another circle of 150 mm diameter from outside. Trace the path of a point P on the circumference of the rolling circle for one complete revolution. Draw tangent and normal to the curve. 07
- (b) The front view of a line AB, 90mm long, measures 65mm. Front view is inclined to XY line by 45°. Point A is 20mm below H.P. and on V.P. Point B is in third quadrant. Draw the projections and find inclinations of line with H.P. and V.P. 07
- OR
- Q-2 (a) A Pentagonal plane of side 50 mm is kept on the HP on one of its side in such a way that its surface makes an angle of 45° with HP. Draw the projection of plane when side which is in HP is inclined at 60° with VP in such a way that nearest corner point is at a distance of 20 mm from VP. 07
- (b) The distance between end projectors of a straight line PQ is 130 mm point P is 40mm below H.P. and 25 mm in front of V.P. Point Q is 75 mm above H.P. and 30 mm behind V.P. Draw the projection of a line and find out its true length and inclination with H.P. and V.P. 07
- Q-3 (a) A square plate of side 60mm is held on a corner on H.P. Plate is inclined to the H.P. such that the plan of it is rhombuses with a diagonal of 30mm. Determine the angle it makes with H.P. The other diagonal is inclined at 45° V.P. Draw the projection of plate. 07
- (b) A cone, diameter of base 60 mm and height 70 mm, has one of its generators in H.P. and making an angle of 45° with the V.P. Draw the projections of the cone when the apex is towards the observer. 07

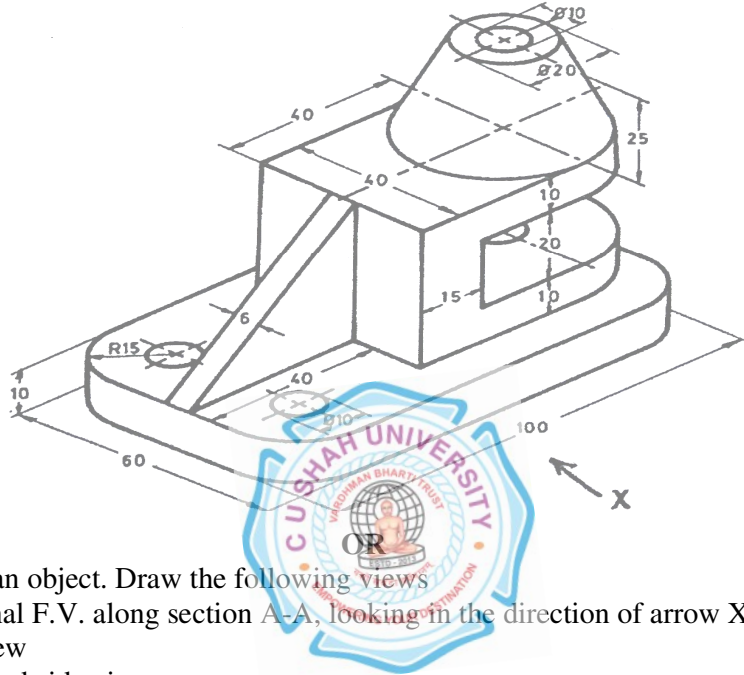
**OR**

- Q-3 (a) A hexagonal prism is resting on H.P. on its base with two edges/sides of base parallel to V.P. It is cut by A.I.P. perpendicular to V.P. and inclined to H.P. by 45° passing through a point of axis 40 mm above the base. Draw three principal projections and find the true shape of section. Take side of base 25 mm and height 50 mm. 07
- (b) A regular hexagonal pyramid (30 x 70) is resting on H.P. on its base with two edges of base parallel to V.P. it is cut by A.I.P. making 60° with H.P. and passing through one of the corners of the base. Draw the development of the truncated pyramid. 07

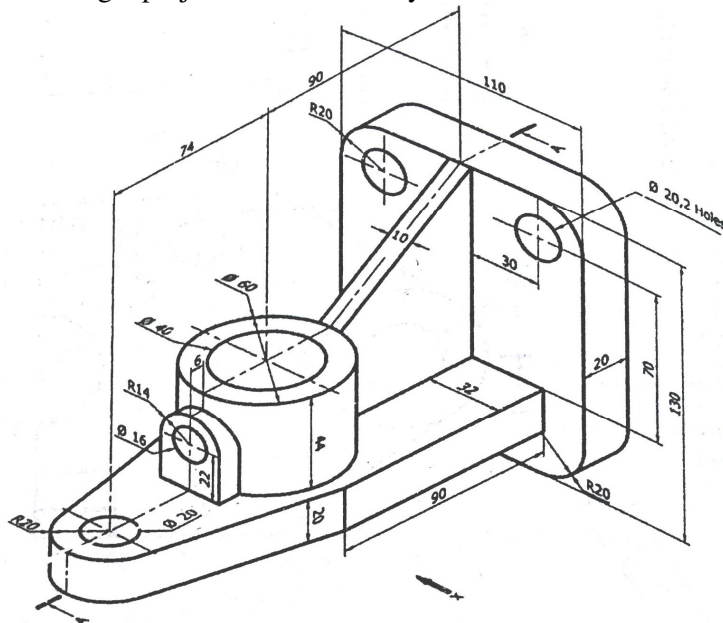


**SECTION-II**

- Q-4 (a) What is AutoCAD? Explain with illustration following commands. 04  
 (i) Line (ii) Circle (iii) Copy (iv) Mirror
- (b) Explain the difference between I<sup>st</sup> angle and III<sup>rd</sup> angle orthographic projection. 03
- Q-5 Figure shows an object. Draw (i) F.V. (ii) T.V. (iii) L.H.S.V. in the 1<sup>st</sup> angle system. 14  
 Insert necessary dimensions in the unidirectional system of dimensioning.

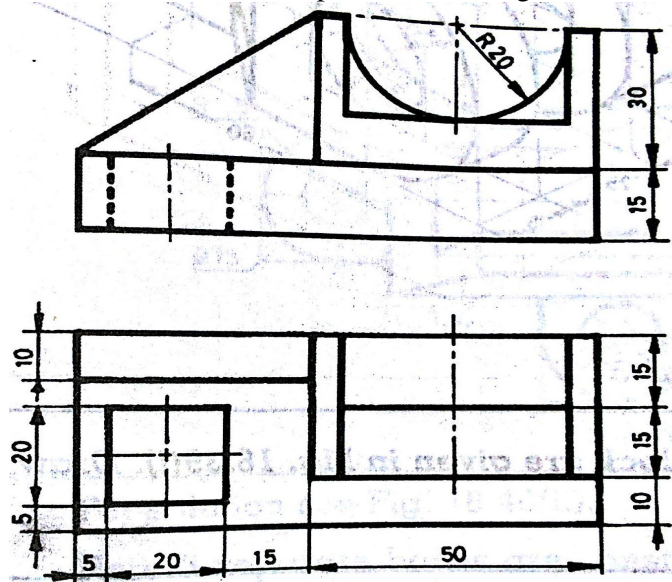


- Q-5 Figure shows an object. Draw the following views 14  
 i. Sectional F.V. along section A-A, looking in the direction of arrow X.  
 ii. Top view  
 iii. Left hand side view.  
 Use first angle projection method only.



Q-6

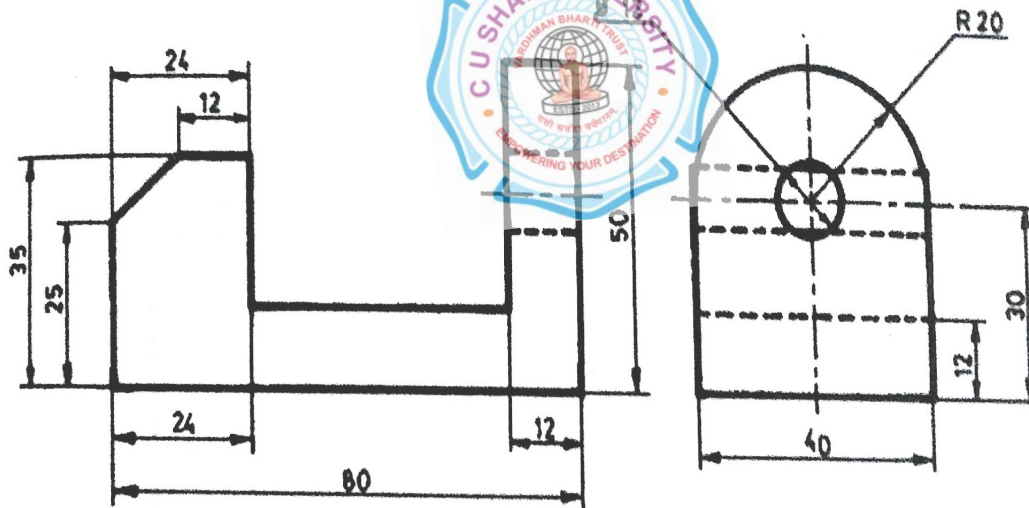
Draw the isometric view of machined component from the given F.V. and T.V. in figure. 14



OR

Q-6

Figure shows F.V. and S.V. of an object. Draw its isometric projection. 14



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