**B.TECH. SEM -I (CHEMICAL/ CIVIL/ ELECTRICAL/ MECHANICAL/ PRODUCTION/ COMPUTER/ INFO. TECH./ ELECTRONICS / BIO MEDICAL / E & TC) 2014 COURSE (CBCS) : SUMMER - 2018**

**SUBJECT: ENGINEERING GRAPHICS***

Day: **Tuesday** **S-2018-2205** Time: **10.00 AM TO 02.00 PM**

Date: **22/05/2018** Max. Marks: 60

**N.B.:**

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate full marks.
3) Only half imperial size drawing sheets should be used as answer book.
4) Assume suitable data if necessary.

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**Q.1** **a)** Draw the Archimedean spiral of 1 ½ convolutions with the greatest radius of 100 mm and the smallest radius of 20 mm. **(05)**

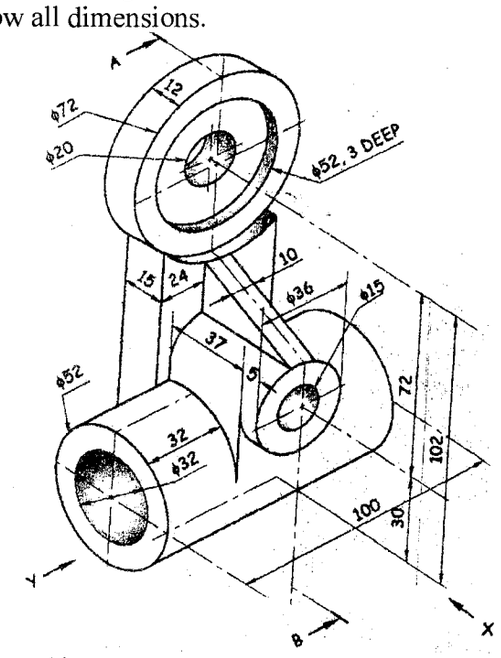
**b)** The major axis and minor axis the ellipse are 125mm and 75mm respectively. Construct an ellipse by oblong method. **(05)**

**OR**

**Q.1** A wheel of 42 mm diameter rolls downwards on the vertical wall by half revolution and then on the floor by half revolution without slipping. Draw the locus of point P on the circumference of the wheel with the wall. Name the curve. **(10)**

**Q.2** Fig. shows a pectoral view of an C.I. BRACKET. Draw the following views using first angle projection method: **(10)**

i) Front view looking in the direction of arrow X
ii) Sectional side view along – Y
iii) Top view, show all dimensions.

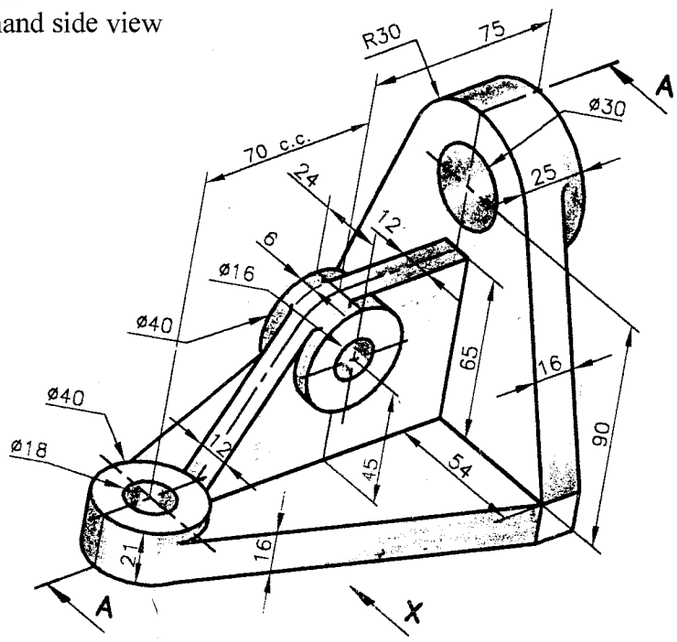



**OR**

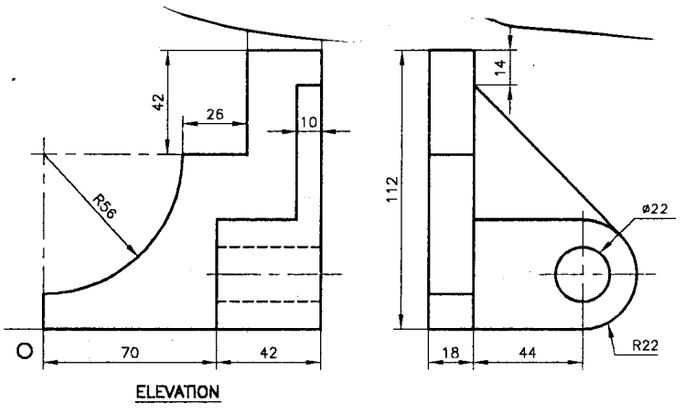
**P. T. O.**

**Q.2** Fig. shows a pectoral view of an object. Draw the following views using first angle projection method: **(10)**

i) Front view along section A-A in direction showing arrow X
ii) Top view
iii) Right hand side view

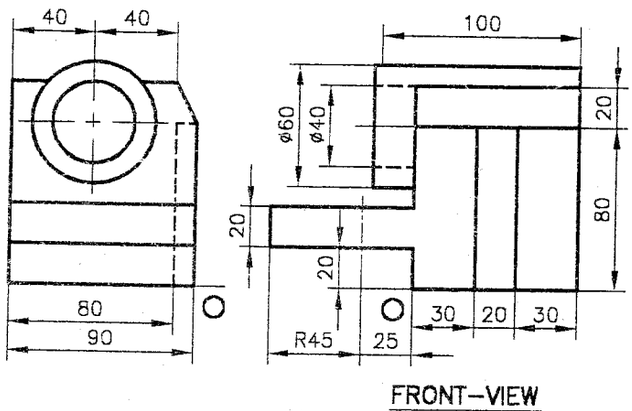



**Q.3** Refer the following Fig. of an object and draw its isometric view taking "O" as the origin. **(10)**




**OR**

**Q.3** Refer the following Fig. of an object and draw its isometric view taking "O" as the origin. **(10)**



**Q.4** A line AB has end A 15 mm in front of V.P. while end B is 60 mm inform of V.P. The line is inclined at $30^0$ to H.P. while the plan is inclined at $60^0$ to V.P. The V.T. is 20mm above H.P. Draw the projections and find the H.T. and inclination of line with V.P. **(10)**

**OR**

**Q.4** The end A of a lien AB 105 mm long is 20 mm above H.P. and 35mm in front of V.P. is 35mm below H.P. Draw the projections of the line and find its inclination with the reference planes. Also locate the H.T. **(10)**

**Q.5** A pentagonal plate ABCDE of 40mm length of sides has side AB on H.P. inclined at $20^0$ to V.P, corner D of the plat is in the V.P. and 45mm above H.P. Draw the projections of the plate assuming it is in first quadrant and find its location with H.P. **(10)**

**OR**

**Q.5** A rhombus ABCD has its diagonal AC = 80 mm and BD = 50 mm. The side AD of the plane is in H.P. obtain the projections of the plane when side CD is in V.P. Find inclination of the plane with V.P. **(10)**

**Q.6** A pentagonal pyramid side of base 25 mm and slant height 60mm is kept on the H.P. on one of its base corners in such way that its axis makes an angle of $30^0$ with the H.P. Draw the projections of the pyramid when the base edge opposite to the corner on H.P. is making an angle of $40^0$ with V.P. **(10)**

**OR**

**Q.6** A square prism, side of base 40 mm and axis length 70 mm is kept on the H.P. on its base with a side of base inclined to V.P. at $45^0$. It is cut by an AIP in such a way that the true shape of the section is an isosceles triangles of base 40 mm and attitude 50 mm. Draw F.V sectional T.V and true shape of the section. **(10)**

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