Hall Ticket Number :										

R-14

Code: 4G513

B.Tech. I Year Supplementary Examinations March 2021

Engineering Drawing

(Common to EEE, ECE, CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. Draw a hyperbola when the distance between its focus and directrix is 50mm. Also draw a tangent and a normal at a point 70mm from the directrix.

OR

2. To construct regular pentagon of given side 25mm by using Inscribe circle method

UNIT–II

3. A line AB is 30mm long and inclined at 30^0 to VP and parallel to HP. The end A of the line is 15mm above HP and 20mm in front of VP. Draw its projections.

OR

4. A line AB 65mm long, has its end A 20mm above HP and 25mm in front of VP. The end B is 40mm above HP and 65mm in front of the VP. Draw the projections of AB and show its inclinations with the HP and the VP

UNIT–III

5. A thin rectangular plate of 60x40mm size has its shorter edge on HP and inclined at 300 to VP. Draw the projections of the plate when the top view is a square of 40mm side

OR

6. A circular plate of negligible thickness and 50mm diameter appears as an ellipse in the front view, having its major axis 50mm long and minor axis 30mm long. Draw its top view when the major axis of the ellipse is horizontal.

UNIT–IV

7. Draw the projections of a cylinder of base 30mm diameter and axis 50mm long when it is resting on HP on one of its base.

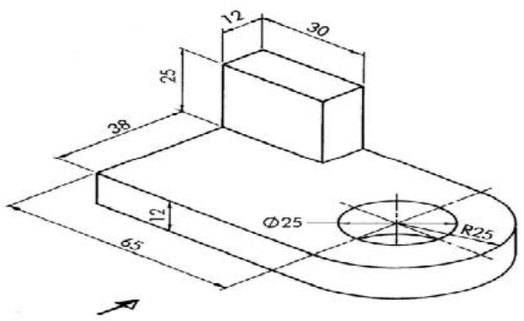
OR

8. a) Draw the isometric view of a pentagon of 50mm side, plane in vertical and horizontal

   b) Draw the isometric projections of a circle of 50mm diameter with its plane horizontal and vertical

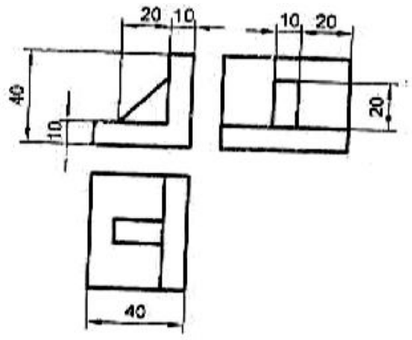
UNIT–V

9. Draw the Front View, Top View and Side View of



OR

10. Draw the isometric view of



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Hall Ticket Number :										

R-14

Code: 4GC15

B.Tech. I Year Supplementary Examinations March 2021

Mathematical Methods

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. Find a model matrix P which transform the matrix $A=\begin{bmatrix}1 & 0 & -1\\ 1 & 2 & 1\\ 2 & 2 & 3\end{bmatrix}$. Find A^4. 14M

OR

2. a) Find whether the following equations are consistent, if so solve them $x+y+2z=4,\ 2x-y+3z=9;\ 3x-y-z=2.$ 7M

   b) Show the equations $x-4y+7z=14,\ 3x+8y-2z=13,\ 7x-8y+26z=5.$ are not consistent. 7M

UNIT–II

3. a) Every square matrix can be written as a sum of Hermitian and Skew-Hermitian matrices. 7M

   b) The Eigen values of a Hermitian matrix are real. 7M

OR

4. Determine $x_1^2+4x_2^2+x_3^2-4x_1x_2+2x_1x_3-4x_2x_3$ the nature, index and signature of the quadratic form 14M

UNIT–III

5. a) Find a real root of $x^3-5x+3=0$ using bisection method 7M

   b) Find out the root of the equation $x^3-x-4=0$ by regula-falsi method . 7M

OR

6. Find a real root of the equation $x+\log_{10}x-2=0$ using Newton's Raphson Method. 14M

UNIT–IV

7. Find the curve of best fit of the type $y=ae^{bx}$ to the following data by the method of least squares

X	1	5	7	9	12
y	10	15	12	15	21

14M

OR

8. Find the first and second derivatives of the function tabulated below at the point x=1.5

x	1.5	2.0	2.5	3.0	3.5	4.0
y	3.375	7.0	13.625	24	38.875	59.0

14M

UNIT–V

9. Find the Fourier series for the function $f(x)=x^2$ in the interval $(0,2®)$. 14M

OR

10. Solve $(a-x)p+(b-y)q=c-z$ 14M

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