(AUTONOMOUS)

I-B.Tech I-Semester Supplementary Examinations (BR20), JAN- 2026

LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS

(Common to all Branches)

Time: 3 hours | Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

UNIT-I

1.a) Define the rank of the matrix and find the rank of the following matrix by using the Echelon form $\begin{bmatrix} 1 & 4 & 3 & -2 \\ -2 & -3 & -1 & 4 \\ -1 & 6 & 7 & 2 \\ -3 & 3 & 6 & 6 \end{bmatrix}$. (7M)

1.b) Solve the system of equations by Gauss-seidel Iteration method (7M)
$10x + y - 2z = 10, x + 12y + z = 26, x + 4y + 15z = 24.$

(OR)

1.c) Find the rank of the following matrix $\begin{bmatrix} 3 & 1 & 4 \\ 0 & 5 & 8 \\ -3 & 4 & 4 \end{bmatrix}$ (4M)

1.d) Discuss, for what values of λ, μ the simultaneous equations (10M)
$x + y + z = 6, x + 2y + 3z = 10, x + 2y - \lambda z = \mu$ have (i) no solution
(ii) a unique solution (iii) an infinite number of solutions.

UNIT-II

2.a) Find the Eigen values and Eigen vectors of $A = \begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$. (14M)

(OR)

2.c) Reduce the quadratic form $3x^2 + 3y^2 + 3z^2 + 2xy - 2yz + 2xz$ to canonical form by orthogonal reduction and find its rank, index, signature and nature. (14M)

UNIT-III

3.a) Solve $2xydy - (x^2 - y^2 + 1)dx = 0$ (7M)

3.b) If the air is maintained at $40^\circ C$ and the temperature of the body cools from $80^\circ C$ to $60^\circ C$ in 20 minutes, find the temperature of the body after 40 minutes. (7M)

(OR)

3.c) Solve $x^2ydx - (x^3 + y^3)dy = 0.$ (7M)

3.d) Show that the system of parabolas $y^2 = 4a(x + a)$,where a is parameter is self orthogonal. (7M)

UNIT-IV

4.a) Solve $(D^2 + 4D + 3)y = cos3x$ (7M)

4.b) Solve $(D^2 + a^2)y = Tan(ax)$ by method of variation of parameters. (7M)

(OR)

4.c) Solve $(D^3 + 2D^2 + D)y = e^{2x} + x^2 + sin2x + 100$ (14M)

UNIT-V

5.a) Obtain Taylor's series expansion of f(x, y) = $e^x cosy$ near $(1, \frac{\pi}{4})$. (7M)

5.b) Solve $(y - z)p + (z - x)q = x - y$ (7M)

(OR)

5.c) A rectangular box open at the top is to have a volume of 32 cubic ft. Find the dimensions of the box requiring least material for its construction. (7M)

5.d) Form the partial differential equation by eliminating arbitrary function from $f(x^2 + y^2, z - xy) = 0$. (7M)

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(AUTONOMOUS)

I-B.Tech I-Semester Supplementary Examinations (BR20), JAN-2026

ENGINEERING CHEMISTRY (CE & ME)

Time: 3 hours | Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

	UNIT-I	
1.a)	Calculate the bond order of O_2, O_2^+, O_2^-. And arrange the molecules in the increasing order of their bond length.	(7M)
1.b)	Explain the concept of crystal field splitting in square planar complexes.	(7M)
	(OR)	
1.c)	Draw the molecular orbital diagrams for C_2 and F_2. Based on the diagrams, find the bond orders and predict the magnetic properties of the two.	(7M)
1.d)	What is crystal field splitting energy? Discuss the factors effecting crystal field splitting.	(7M)
	UNIT-II	
2.a)	Enumerate the steps involved in determining the calorific value of solid fuel using a bomb calorimeter.	(7M)
2.b)	Examine the differences between LPG and CNG. Mention their advantages.	(7M)
	(OR)	
2.c)	Analyze the quality of coal using the proximate analysis method and give its significance.	(7M)
2.d)	Explain the process of synthesizing petrol using the Fischer-Tropsch method and illustrate its chemical reactions involved.	(7M)
	UNIT-III	
3.a)	Outline the process of softening hard water using the zeolite method.	(7M)
3.b)	Explain the cause of caustic embrittlement in boilers and suggest a remedy.	(7M)
	(OR)	
3.c)	Discuss the causes and prevention of priming and foaming.	(7M)
3.d)	What is desalination? With a neat diagram describe the reverse osmosis method for the desalination of brackish water.	(7M)
	UNIT-IV	
4.a)	Calculate the reduction potential of Cu^{2+} (0.5M) / Cu at 25°C. E° (Cu^{2+} / Cu) = 0.337V.	(7M)
4.b)	Formulate the mechanism of wet corrosion for i) Hydrogen evolution type corrosion ii) Hydroxide formation type corrosion	(7M)
	(OR)	
4.c)	Demonstrate the construction and working of a calomel electrode with the help of a neat diagram.	(7M)
4.d)	Explain the sacrificial anode technique for the prevention of corrosion.	(7M)
	UNIT-V	
5.a)	Formulate various reactions of water with cement constituents which take place during setting and hardening.	(7M)
5.b)	Differentiate between thermoplastics and thermosetting plastics with examples.	(7M)
	(OR)	
5.c)	Explain the properties and applications of nano materials.	(7M)
5.d)	What is vulcanization? Describe the chemistry of vulcanization. Give its significance.	(7M)

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BONAM VENKATA CHALAMAYYA ENGINEERING COLLEGE::ODALAREVU
(AUTONOMOUS)

I-B. Tech I-Semester Supplementary Examinations (BR20), JAN - 2026

APPLIED PHYSICS [ECE, EEE, CSE (AI&ML)]

Time: 3 hours | Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

	UNIT-I	
1.a)	Describe the principle and formation of Newton's rings with neat diagram. Deduce the diameters of bright and dark rings.	(10M)
1.b)	In Newton's rings experiment, diameter of 8^{th} dark was found to be 0.25 cm. Calculate diameter of 10^{th} dark when liquid of refractive index 1.33 has been introduced between plano-convex lens and glass plate.	(4M)
	(OR)	
1.c)	Discuss the necessary theory involved in formation of Fraunhofer single slit diffraction pattern and obtain conditions for primary maximum, minima and secondary maxima. Using this, draw intensity distribution curve.	(10M)
1.d)	Write a short note on resolving power of grating.	(4M)
	UNIT-II	
2.a)	Describe the construction and working of ruby laser.	(8M)
2.b)	Write a short note on (i) stimulated emission (ii) pumping and (iii) metastable state.	(6M)
	(OR)	
2.c)	Discuss the basic principle involved in working optical fiber. Derive expressions for acceptance angle, acceptance cone and numerical aperture of an optical fiber?	(10M)
2.d)	Discuss various applications of optical fiber.	(4M)
	UNIT-III	
3.a)	Explain electronic polarization in atoms and obtain an expression for electronic polarizability in terms of radius of the atom.	(10M)
3.b)	The dielectric constant of He gas at NTP is 1.0000684. Calculate the electronic polarizability of He atoms, if the gas contains 2.7×10^{19} atoms/cm^3.	(4M)
	(OR)	
3.c)	Discuss the classification of magnetic materials?	(8M)
3.d)	Explain origin of magnetic moment. Derive the expression for magnetic dipole moments due to orbital motion of electron?	(6M)
	UNIT-IV	
4.a)	Derive the Schrödinger time independent wave equation.	(7M)
4.b)	What is wave function? Explain physical significance of the wave function.	(7M)
	(OR)	
4.c)	Derive an equation for electrical conductivity based on the quantum free-electron theory.	(10M)

	UNIT-V	
5.a)	Derive an expression for the carrier concentration in n-type semiconductors.	(8M)
5.b)	Discuss the effect of temperature on the Fermi level in intrinsic semiconductor.	(6M)
	(OR)	
5.c)	What is Hall effect? Deduce the expressions for Hall coefficient of p-type and n-type semiconductors.	(8M)
5.d)	Discuss the applications of Hall effect in detail.	(6M)

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(AUTONOMOUS)

I-B. Tech I-Semester Supplementary Examinations (BR20), JAN - 2026

APPLIED CHEMISTRY (CSE, CSE (AI&DS), AI&ML)

Time: 3 hours | Max. Marks: 70

*Question Paper consists of **5** units, each carrying 14 marks, Each unit has **2** questions; either of them should be answered, All parts of a question must be answered at one place*

	UNIT-I	
1.a)	Apply the molecular orbital theory to provide insight into bond order and magnetic nature of N_2 molecule with a neat sketch.	(7M)
1.b)	Explain the crystal field splitting of d-orbitals in octahedral complexes and determine it's crystal field stabilization energy.	(7M)
	(OR)	
1.c)	Discuss the prominent features of MO theory and explain with H_2 molecule.	(7M)
1.d)	Differentiate the splitting of d-orbitals in square planar and tetrahedral complexes with a neat illustrations	(7M)
	UNIT-II	
2.a)	Assess the possible electronic transitions of the molecule by the absorption of UV-visible light and explain with energy profile diagram.	(7M)
2.b)	Give a brief note on (i) relaxation phenomena of NMR active nuclei. (ii) chemical shift.	(7M)
	(OR)	
2.c)	Illustrate the types of absorption shifts in UV-visible spectroscopy.	(7M)
2.d)	Describe the principle of IR spectroscopy.	(7M)
	UNIT-III	
3.a)	Calculate the temporary and permanent hardness of a water sample having the following analysis. $Ca(HCO_3)_2$=162mgs/L, $Mg(HCO_3)_2$=7.3mgs/L, $CaCl_2$= 22.2mgs/L and $MgCl_2$=95mgs/L.	(7M)
3.b)	Compare the characteristics of sludge and scale formation if the hard water is used in boilers.	(7M)
	(OR)	
3.c)	Analyze the reasons for priming and foaming formation in boilers and suggest the suitable measures to minimize it.	(7M)
3.d)	Interpret the concept of reverse osmosis for the production of soft water from sea water.	(7M)
	UNIT-IV	
4.a)	What is single electrode potential? Derive Nernst equation for single electrode potential.	(7M)
4.b)	Examine the nature of oxide layer during corrosion of metals in the presence of dry oxygen gas.	(7M)
	(OR)	
4.c)	Construct standard calomel electrode and explain how it is used as a reference electrode.	(7M)
4.d)	Discuss electrochemical principles to control corrosion.	(7M)
	UNIT-V	
5.a)	Define Portland cement. Identify the additives required for the repair concrete structures	(7M)
5.b)	Explain the preparation properties and applications of Buna-S, Buna-N rubbers.	(7M)
	(OR)	
5.c)	Mention the properties and applications of carbon nano tubes.	(7M)
5.d)	Differentiate addition and condensation polymerization methods.	(7M)

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Course Code: **20ES1T06**

BONAM VENKATA CHALAMAYYA ENGINEERING COLLEGE::ODALAREVU
(AUTONOMOUS)

I-B. Tech I-Semester Supplementary Examinations (BR20) JAN - 2026

PROGRAMMING FOR PROBLEM SOLVING USING C & DS

(CE, EEE, ME & ECE)

Time: 3 hours Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

	UNIT-I	
1.a)	Write about nested if ... else statements with its general form, flow chart and with a suitable example.	(7M)
1.b)	Write a C program to check whether the given number is leap year or not.	(7M)
	(OR)	
1.c)	Write a C program to read two numbers and an arithmetic operator. Using switch case statement, perform the required arithmetic operations and display the results.	(7M)
1.d)	Explain about entry and exit control loops available in C.	(7M)
	UNIT-II	
2.a)	Write a C program to read and display elements of two dimensional arrays using pointers.	(7M)
2.b)	Write about declaration and accessing of two-dimensional arrays with suitable example.	(7M)
	(OR)	
2.c)	Write about passing two-dimensional array to functions with suitable example	(7M)
2.d)	How pointer variables are passed to a function? Illustrate with a C program to swap two variables.	(7M)
	UNIT-III	
3.a)	Explain about function prototype and function call.	(7M)
3.b)	What is the use of storage class? Write about all storage classes with examples.	(7M)
	(OR)	
3.c)	Write about 'arrays of structures' with an example program.	(7M)
3.d)	Differentiate actual arguments & formal arguments.	(7M)
	UNIT-IV	
4.a)	Define non-linear data structure and give an example.	(7M)
4.b)	Search 32 in the following list of elements using binary search. Explain the process at each step. 12, 16, 17, 19, 20, 22, 24, 29, 30, 32, 37	(7M)
	(OR)	
4.c)	Trace the working of quick sort by sorting the following numbers 45, 34, 12, 46, 27, 56, 11, 87, 6, 33, 28.	(7M)
4.d)	Explain representation of a stack using arrays with suitable example.	(7M)
	UNIT-V	
5.a)	What is queue? What are the applications of queue? Explain.	(7M)
5.b)	State and explain different operations on single linked list.	(7M)
	(OR)	
5.c)	Discuss the advantages and disadvantages of representing a group of items as an array versus a linear linked list.	(7M)
5.d)	Discuss about different binary tree traversals with examples.	(7M)

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Course Code:20ES1T05

BONAM VENKATA CHALAMAYYA ENGINEERING COLLEGE::ODALAREVU

(AUTONOMOUS)

I- B. Tech I-Semester Supplementary Examinations (BR20), JAN-2026

Programming For Problem Solving-1 (CSE,CSE(AI&DS),AI&ML)

Time: 3 hours Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

UNIT-I

1.a)	Define algorithm. What are the properties of algorithms?	(7M)
1.b)	Demonstrate the various constants available in C language?	(7M)
	(OR)	
1.c)	Design an algorithm to find the roots of a quadratic equation.	(7M)
1.d)	Distinguish between Type cast and Type Conversion with suitable examples	(7M)
	UNIT-II	
2.a)	Construct a c program to check whether a given number is Prime or not.	(7M)
2.b)	Analyze the conditional operator with suitable example	(7M)
	(OR)	
2.c)	Evaluate the following expression in step by step: X = 9/2+3*4%5*4+55-34+2*9/3	(7M)
2.d)	Develop a C program to display the Fibonacci Series using if-else statements.	(7M)
	UNIT-III	
3.a)	Explain how to declare and initialize a two dimensional array with suitable examples.	(7M)
3.b)	What is a pointer? Explain declaration, initialization and accessing of a pointer variable With example.	
	(OR)	
3.c)	Write a c program to sort elements of an array in ascending order.	(7M)
3.d)	Explain about Command Line Arguments with an example.	(7M)
	UNIT-IV	
4.a)	Explain about any five string manipulation functions	(7M)
4.b)	Explain about storage classes with suitable examples.	(7M)
	(OR)	
4.c)	Write a c program to find number of vowels , consonants and digits in the given string	(7M)
4.d)	Explain the call by value mechanism with suitable example	(7M)
	UNIT-V	
5.a)	Explain how to define and initialize a structure with suitable examples.	(7M)
5.b)	Write a program to read a file character by character and display it simultaneously on the screen .	(7M)
	(OR)	
5.c)	Write a C program to read, display, add and subtract two complex numbers using structures.	(7M)
5.d)	Explain various mode of opening a file in c.	(7M)

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BONAM VENKATA CHALAMAYYA ENGINEERING COLLEGE::ODALAREVU
(AUTONOMOUS)
I-B.Tech I-Semester Supplementary Examinations (BR20), JAN-2026
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
(CIVIL/MECH/CSE, AI&DS, AI&ML, CSE (AI&ML))

Time: 3 hours Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

	UNIT-I	
1.a)	Derive an expression for the equivalent inductance when the inductances are Connected in parallel.	(7M)
1.b)	Distinguish between (i) active and passive elements (ii) Linear and non-linear elements and give their voltage and current relations.	(7M)
	(OR)	
1.c)	State and explain star to delta transformation in detail with an example.	(14M)
	UNIT-II	
2.a)	A dc shunt motor operating from a constant voltage supply is running steadily on no load. Explain how motor will adjust itself on application of full load torque.	(7M)
2.b)	Give the applications of DC machines and explain any one application in detail.	(7M)
	(OR)	
2.c)	Distinguish between self-excited and separately excited dc generators. Give the classification of self-excited dc generators along with their circuit diagrams.	(7M)
2.d)	An 8-pole wave connected D.C. generator has 1000 armature conductors and flux/pole 0.035 Wb. At what speed must it be driven to generate 500 V?	(7M)
	UNIT-III	
3.a)	What are the types of 3-phase alternators, give their constructional details.	(7M)
3.b)	A 3000/300 V single-phase transformer gives 0.5 A and 100 W as an ammeter and wattmeter readings when supply is given to the low voltage winding and high voltage winding is kept open, find: (i) power factor of no-load current. (ii) Magnetising component. (iii) iron loss component.	(7M)
	(OR)	
3.c)	Derive an expression for induced emf in a transformer in terms of frequency, the Maximum value of flux and the number of turns on the windings.	(7M)
3.d)	Explain how losses can be calculated using OC and SC tests.	(7M)
	UNIT-IV	
4.a)	Explain the operation of PN junction diode in reverse bias condition with neat diagrams and explain about avalanche breakdown.	(7M)
4.b)	Draw the block diagram of op-amp and explain each block in detail.	(7M)
	(OR)	
4.c)	Draw the circuit diagram of bridge rectifier and explain its operation with neat output waveforms.	(14M)
	UNIT-V	
5.a)	Draw and explain the output characteristics of npn transistor in CE configuration with neat diagrams.	(7M)
5.b)	Explain the construction details and operation of npn transistor and draw its symbol.	(7M)
	(OR)	
5.c)	Explain the operation of a transistor and give the application of transistor.	(14M)

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(AUTONOMOUS)

I-B. Tech I-Semester Supplementary Examinations (BR20), JAN - 2026

ENGINEERING GRAPHICS

(Common to CE & ME)

Time: 3 hours | Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

UNIT-I

1.a) Draw a parabola when given the distance between directrix and focus as 70mm. draw a tangent and normal to the curve at a point which is at a distance of 40mm form the axis (7M)

1.b) Draw a cycloid of a circle of diameter 50mm, for one revolution. Also draw a tangent and a normal to the curve at a point 35mm above the base line. (7M)

(OR)

1.c) Inscribe an ellipse in a parallelogram having sides 150 mm and 100 mm long and an included angle of 120^0 (7M)

1.d) Draw a hyperbola when the distance between its focus and directrix is 50mm and eccentricity is 3/2. Also draw the tangent and normal at a point distant 25mm from the directrix (7M)

UNIT-II

2.a) A point B is 40 mm from HP & 25 from VP. Draw its projections in all possible positions (7M)

2.b) A line PQ, 90 mm long, is in the H.P. and makes an angle of 30^0 with the V.P. Its end P is 25 mm in front of the V.P. Draw its projections. (7M)

(OR)

2.c) A line PQ of 90mm long has its end P at 20mm above H.P. and 25mm in front of V.P. Its front view and top view measure 75mm and 80mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P (7M)

2.d) Project the following points and specify the quadrants (7M)
i)A Point P plan is 40mm above XY and the elevation is 20mm below the plan.
ii)A Point Q its projections coincide with each other and 30 mm below XY.

UNIT-III

3.a) A pentagonal prism rests on one of its edges of the base on the HP with its axis inclined at 45^0 to the HP and the axis inclined at 30^0 to the VP. Draw the projections of the prism, assuming the edge of the base to be 30mm and axis 70mm long (7M)

3.b) A cylinder having diameter 50mm and height 60mm is resting on its circumferential point of base if the axis parallel to VP. Draw projections of solid if the axis makes an angle 45^0 to the ground. (7M)

(OR)

3.c) A square pyramid of base 40mm and axis 60mm long is resting on one of its triangular faces on HP, with the edge of the base containing that face inclined at 45^0 to VP. Draw the projections of the pyramid (7M)

3.d) Draw the projections of a cone, base 45mm diameter and axis 50mm long, when it is resting on the ground on a point on its base circle with the axis making an angle of 30^0 with the H.P. and parallel to the V.P. (7M)

4.a) from its plan and front elevation which stands vertically on its base on H.P with one edge of the base parallel to V.P.

4.b) A hexagonal prism 25mm side and 50 mm axis is lying on horizontal plane on its rectangular face with axis parallel to vertical plane. Draw the development of the solid (7M)

(OR)

4.c) A square prism of side of base 40 mm and axis 80 mm long, is resting on its base on HP such that, a rectangular face of it is parallel to VP. Draw the development of the prism (7M)

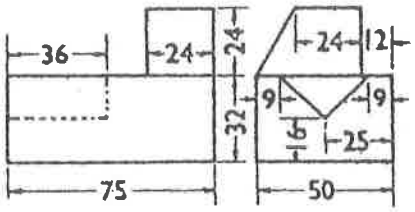
4.d) A cone of base 50 mm diameter and height 65 mm rests with its base on HP. A section plane perpendicular to VP and inclined at 30^0 to HP bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone (7M)

UNIT-V

5.a) A hexagonal prism of base side 30mm and axis length 60mm is resting on HP on its base with a side of base parallel to VP. Draw the isometric view of the prism. (14M)

(OR)

5.b) Draw the isometric view of the object shown in figure (14M)



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(AUTONOMOUS)

I-B.Tech I-Semester Supplementary Examinations (BR20), JAN - 2026

ENGINEERING DRAWING (ECE)

Time: 3 hours | Max. Marks: 70

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*Question Paper consists of **FIVE** units, each carrying 14 marks*
*Each unit has **TWO** questions; either of them should be answered*
All parts of a question must be answered at one place

UNIT-I

1.a) The major and minor axes of an ellipse are 140 mm and 90 mm respectively. Findthe foci and draw the ellipse using arcs of circle method. Draw a tangent and a normal to the ellipse at a point 40 mm above the major axis. (14M)

(OR)

1.c) Draw regular pentagon, hexagon and a heptagon on a common edge of side 30mm. (7M)

1.d) Draw an epi-cycloid of rolling circle of diameter 40 mm which rolls outside another circle (base circle) of 150 mm diameter for one revolution. Draw a tangent and normal at any point on the curve. (7M)

UNIT-II

2.a) A point U is 12 mm below HP, 25 mm behind VP and 38 mm away from Profile Plane. Draw front view, top view and left side view of the point. (7M)

2.b) An 80 mm long line PQ is inclined at 30^0 to the VP and is parallel to the HP. Theend P of the line is 20 mm above the HP and 40 mm in front of the VP. Draw the projections of the line and determine its traces. (7M)

(OR)

2.c) Two points P and Q lying in the VP are 90 mm apart. The horizontal distance between the points is 60 mm. if the point P is 15 mm above the HP. Find the height of the point Q above the HP and the inclination of the line joining P and Q with the HP. (7M)

2.d) A 60 mm long line AB is parallel to and 20 mm in front of the VP the ends A andB of the line are 10 mm and 50 mm above the HP, respectively. Draw the projections of the line and determine its inclination with the HP. (7M)

UNIT-III

3.a) The top view of a plane is a regular pentagon of side 30 mm having one sideinclined at 30^0 to the VP. Its front view is a straight line inclined at 45^0 to the reference line. Draw the projections of the plane and determine its true shape. (14M)

(OR)

3.c) A circular lamina of diameter 60 mm has a centrally punched square hole of side30 mm. Draw its projections when a diagonal of the hole is parallel to the VP and inclined at 30^0 to the HP. While the other is inclined at 45^0 to the VP. (14M)

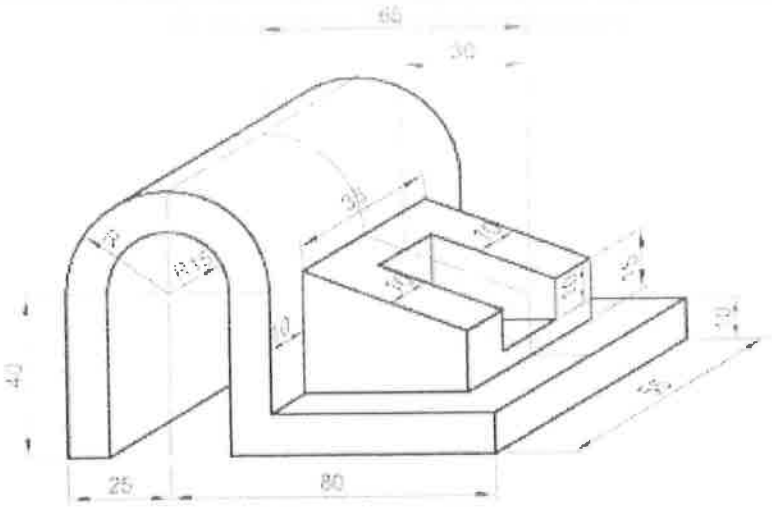
UNIT-IV

4.a) A hexagonal prism, base side 40 mm and axis 40 mm has a centrally drilled circular hole of diameter 40 mm. Draw its projections when the prism is resting onan edge of its base on the HP and the axis inclined at 60^0 to the HP and parallel to the VP. (14M)

(OR)

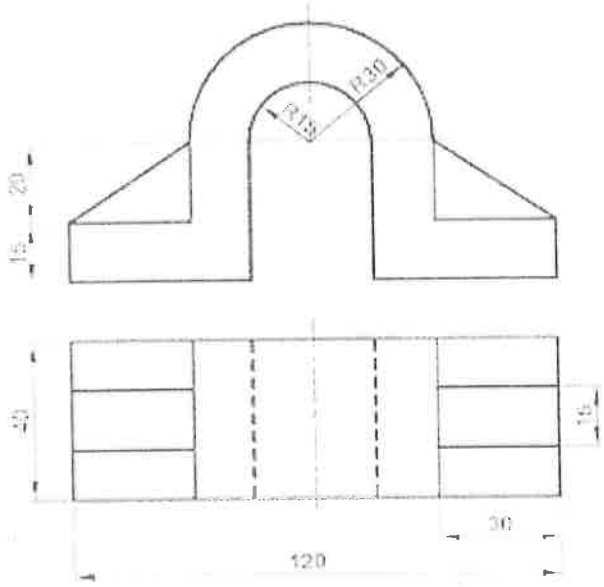
4.c) A pentagonal pyramid of base side 30 mm and axis 55 mm has a triangular face in the VP and the base edge contained by that triangular face is perpendicular to the HP. Draw its projections. (14M)

5.a) Draw the front view and top view for the given figure. (14M)



(OR)

5.c) The front and top views of an object are shown in below figure. Draw its isometricview. (14M)



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