



ARKA JAIN University
Jharkhand



[17-01-2026]
END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE / CSE / AIDS / AIML		Branch	B. Tech
Subject Name	Engineering Mathematics-I		Session	Odd, 2025-26
Semester	I		Year	Jan, 2026
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Paper(s)</u>. 			
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating	
	K2 : Understanding	K4 : Analysing	K6 : Creating	

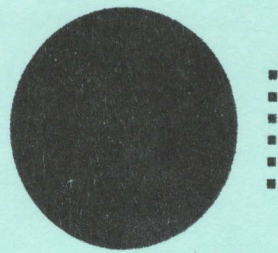
Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)

i	State Lagrange's mean value theorem	2	CO5	K1
ii	If $u = \frac{x^3 + y^3}{x^2 - y^2}$, then find the value of $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y}$.	2	CO4	K5
iii	If u, v, w be three functions of three variables x, y, z . Write down the formula of their Jacobian, $J = \frac{\partial(u,v,w)}{\partial(x,y,z)}$.	2	CO2	K2
iv	If $f = \sin(x^2 + y^3)$, find $\frac{\partial^2 f}{\partial y \partial x}$.	2	CO3	K4
v	Give an example of complex matrix.	2	CO1	K6
vi	State Euler's theorem.	2	CO1	K2
vii	Find the rank of $A = \begin{pmatrix} 1 & 3 & 3 \\ 0 & 0 & 0 \\ 1 & 2 & 0 \end{pmatrix}$	2	CO2	K4
viii	Write the expansion of $\sin x$.	2	CO5	K3
ix	Find the derivative $\frac{dy}{dx}$ for $y = x^x$	2	CO5	K1
x	Find β if non-trivial solution exist for the given system of equation	2	CO4	K5

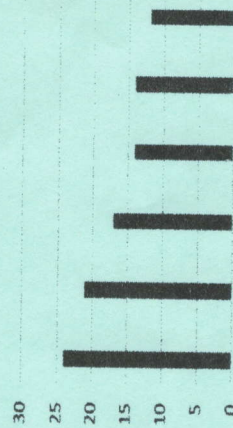
CO1	Remember the matrix representation of a set of linear equations and solve the solution of the system of equations
CO2	Understand how to find the Eigenvalues and Eigen vectors
CO3	Reduce the quadratic form to canonical form using orthogonal transformations.
CO4	Solve the applications on the mean value theorems.
CO5	Evaluate the improper integrals using Beta and Gamma functions
CO6	Find the extreme values of functions of two variables with/ without constraints.

GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



Course Outcome wise Marks Distribution



$x - 3y + 4\beta z = 0$
 $x + 2y - z = 0$
 $x - y + 2z = 0$

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

2	Find the Eigen Values and the Eigen Vector for the given matrix $\begin{bmatrix} 2 & -1 \\ 5 & -2 \end{bmatrix}$	05	CO2	K1
3	If $u = \sin^{-1}\left(\frac{x^2+y^2}{x-y}\right)$, find $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y}$.	05	CO3	K5
4	Verify Lagrange's theorem for $f(x) = x^3 - 3x$ on $[0,4]$. If possible, find the required point c .	05	CO6	K2
5	Evaluate If $I = \int_{x=1}^2 \int_{y=0}^2 (x^2y + yx^3) dx dy$	05	CO4	K1
6	Find the inverse of the matrix by Cayley Hamilton theorem $A = \begin{pmatrix} 3 & 1 \\ -1 & 2 \end{pmatrix}$	05	CO1	K5
7	Apply Maclaurin's Theorem to Obtain the Expansion of $\cos x$ upto 5 terms.	05	CO5	K3

Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

8	Reduce the given matrix to normal form and hence find its rank $A = \begin{pmatrix} 1 & 3 & 4 \\ -2 & 1 & -1 \\ 3 & -1 & 2 \end{pmatrix}$	10	CO1	K2
9	If $u_1 = \frac{x_2 x_3}{x_1}$, $u_2 = \frac{x_3 x_1}{x_2}$ and $u_3 = \frac{x_1 x_2}{x_3}$, then find Jacobian $\frac{\partial(u_1, u_2, u_3)}{\partial(x_1, x_2, x_3)}$.	10	CO4	K1
10	The circle $x^2 + y^2 = a^2$ is revolving about x axis, find the volume of the solid formed	10	CO3	K6
11	Expand $\log_e \cos(x+h)$ in powers of h by Taylor's expansion.	10	CO6	K3
12	Find the derivative $\frac{dy}{dx}$ for $y = x^x + x^{\sin x}$.	10	CO2	K4



**ARKA JAIN
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Jharkhand



[20-01-2026]

END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE	Branch	B. Tech
Subject Name	Programming for Problem Solving	Session	Odd, 2025-26
Semester	I	Year	Jan, 2026
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phone or any kind of Written Material, <u>Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will Result in the Cancellation of the Paper(s).</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)

Q. N	QUESTIONS	Marks	COs	KL
1				
i	Mention any two characteristics of an Algorithm.	2	CO1	K1
ii	Why do we need a programming language?	2	CO1	K2
iii	What is a variable? Declare a variable of integer type and assign a value.	2	CO2	K3
iv	What is the significance of the term void main()?	2	CO1	K1
v	Show the use of any two in-built string functions in C.	2	CO2	K1
vi	Define operator? Name any two categories of operator in C.	2	CO1	K1
vii	What is the use of a pointer?	2	CO5	K2
viii	Write down the syntax of switch statement.	2	CO1	K1
ix	Write down the syntax to declare a parameterised function having 2 parameters.	2	CO4	K2
x	Write down the syntax of struct data type.	2	CO5	K1

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

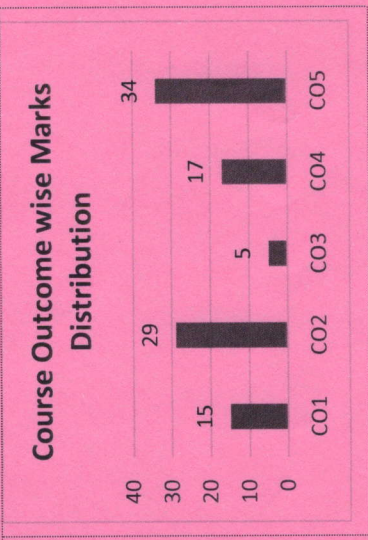
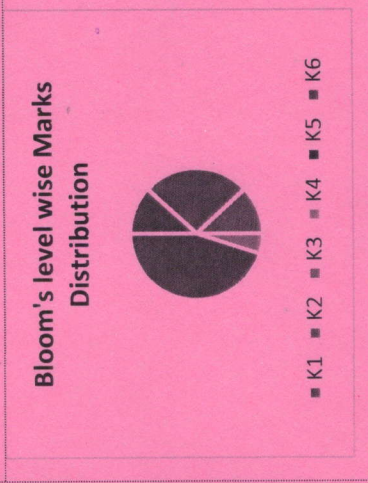
Q. No.	QUESTIONS	Marks	COs	KL
2	Compare algorithm and flowchart with proper example.	05	CO1	K2
3	What is an Array? Write a program to show the sum of all elements of an array of size 10.	05	CO3	K6
4	Write a program to swap two values using pointer (call by reference).	05	CO4	K6
5	When do we use the header file math.h? Give an example.	05	CO2	K4
6	What is recursion? Write a program to show the factorial of a number using recursion.	05	CO4	K6
7	What is conditional compilation? Explain how can the size of a structure be defined?	05	CO4	K2

Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Compare static and extern storage classes. Also give any 2 applications of Union.	10	CO5	K3
9	Explain the syntax and purpose of fgets() and fputs(). Create a program to show the use of any 3 string functions.	10	CO5	K6
10	What is a logical operator? Write a program to show the use of union or enum data type.	10	CO5	K6
11	Compare while and do-while. Also discuss about various data types used in C.	10	CO2	K2
12	What is the use of break keyword? Mention the importance of void keyword. Write a code to show the use of return keyword.	10	CO2	K6

Course Outcomes	CO1	CO2	CO3	CO4	CO5
	Formulate simple algorithms for arithmetic and logical problems.	Test and execute the programs and correct syntax and logical errors.	Implement conditional branching, iteration and recursion.	Decompose a problem into functions and synthesize a complete program using divide and conquer approach.	To use arrays, pointers and structures to formulate algorithms and programs *

GRAPHICAL REPRESENTATION



CO1	Define the cells, its structure and function, and Different types of cells and basis for Classification of living organisms
CO2	Explain about biomolecules its structure and function and their role in a living organism How biomolecules are useful in Industry & explain about human physiology.
CO3	Demonstrate the concept of biology and its uses in combination with different technologies for production of medicines and production of transgenic plants and animals.
CO4	Illustrate about genes and genetic materials (DNA & RNA) present in living organisms and how they replicate, transfer & preserve vital information in living organisms.
CO5	Integrate biological principles for developing next generation technologies.

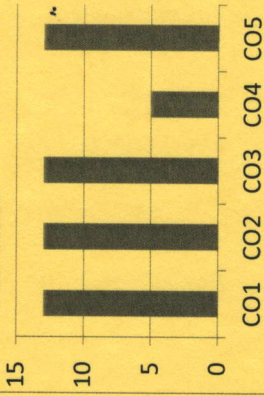
GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5

Course Outcome wise Marks Distribution



ARKA JAIN University
Jharkhand



[04-02-2026]

END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE / CSE-AI&DS	Branch	B. Tech
Subject Name	Biology for Engineers	Session	Odd, 2025-26
Semester	I	Year	Jan, 2026

• Start writing from 2nd page onwards; **don't Write on the 1st Page Backside**

- Answer all Questions of Section A (Compulsory)
- Answer Any Five out of Six of Section B
- Answer Any Two out of Four of Section C
- Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.

Time: 1.5 Hour
Max. Marks : 35

Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating
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Section A (Each question Carry 01 Marks from Q1-i to v) – 05 Marks

Q. N	QUESTIONS	Marks	COs	KL
1				
i	Define autotrophs by giving suitable example.	01	CO2	K1
ii	Give any two example of bio mimicry by human made application.	01	CO1	K2
iii	Define gene.	01	CO3	K3
iv	Why enzymes are called biological catalysts?	01	CO4	K4
v	What do mean by essential and non-essential amino acids.	01	CO5	K2

Section B (Answer any FIVE out of SIX) – 10 Marks
(Each question Carry 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Justify the need to study Biology with reference to environment and technology.	02	CO1	K1
3	What are the two purine & Pyrimidine of DNA and RNA?	02	CO3	K2
4	What is the general formula of amino acids?	02	CO5	K3

5	What is meant by enzyme-substrate complex?	02	CO4	K4
6	What is a conjugated protein?	02	CO4	K2
7	Compare the characteristics of Prokaryotic and Eukaryotic cell.	02	CO2	K4
Section C (Answer any TWO out of FOUR) - 20Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Define Biosensor. Explain the working principle of biosensor. Discuss about the applications of biosensor.	10	CO1	K5
9	Explain the structure and nomenclature of nitrogenous bases in DNA and RNA.	10	CO3	K4
10	Explain carbohydrates and classify them with suitable examples and proper structure.	10	CO5	K2
11	Illustrate the levels of biological classification of living organisms.	10	CO2	K3



**ARKA JAIN
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[02-02-2026]

END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE / AIDS (IBM)	Branch	B. Tech
Subject Name	Sports and Yoga Or NSS/NCC	Session	Odd, 2025-2026
Semester	I	Year	Jan, 2026
Time: 1.5 Hour Max. Marks : 35	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> Answer all Questions of Section A (Compulsory) Answer Any Five out of Six of Section B Answer Any Two out of Four of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to v) - 05 Marks

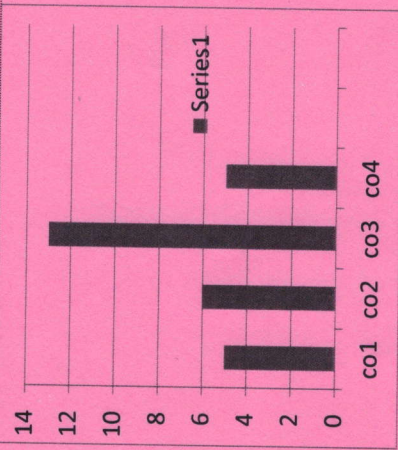
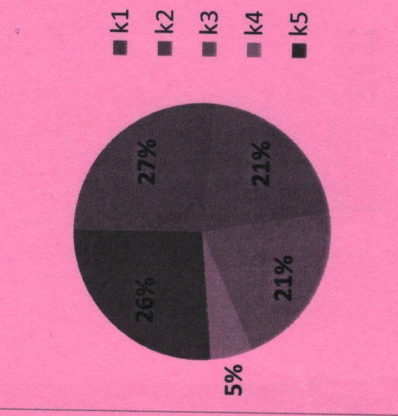
Q. N	QUESTIONS	Marks	COs	KL
1				
i	What is the purpose and mission of the National Cadet Corps (NCC) in India?	01	CO1	K3
ii	How does the National Cadet Corps (NCC) contribute to youth development in India?	01	CO4	K2
iii	How many players are there in a cricket team?	01	CO2	K4
iv	What are the primary benefits of practicing yoga regularly?	01	CO1	K2
v	How many players are there on the playing court for a handball team?	01	CO3	K1

Section B (Answer any FIVE out of SIX) - 10 Marks
(Each question Carry 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What is the full form of FIFA in Sports?	02	CO4	K1
3	How does the work of NCC students help in strengthening the values of patriotism and discipline within the youth?	02	CO3	K3
4	What are the key benefits of participating in sports for physical and mental health?	02	CO2	K1

CO1	Train volunteer youth to become confident, committed and competent leaders in all walks of life.
CO2	Enhance awareness levels of cadets to become empowered and responsible citizens of the country.
CO3	Undertake adventure activities to hone leadership qualities and risk taking abilities.
CO4	Provide a platform to launch 'Good Will Ambassadors' to project the image of the country overseas.
CO5	Provide opportunities and encourage cadets to enrich their knowledge, develop communication skills and build character.

GRAPHICAL REPRESENTATION

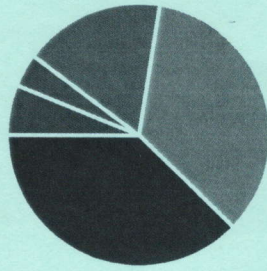


Q. No.	QUESTIONS	Marks	COs	KL
5	What are the duties of a goalkeeper in a football match, and how do the rules set them apart from other players?	02	CO3	K5
6	What are the key strategies for long-distance running?	02	CO2	K1
7	What role does meditation play in enhancing the benefits of yoga?	02	CO4	K2
Section C (Answer any TWO out of FOUR) – 20 Marks (Each question Carry 10 Marks)				
8	What is the significance of the National Cadet Corps (NCC) in shaping the character and discipline of youth in India?	10	CO1	K3
9	What roles do NSS students play in contributing to their communities, and how do these activities promote values like discipline and patriotism?	10	CO4	K2
10	How do the duties of NSS students align with the organization's mission to instil a sense of discipline and national pride?	10	CO1	K3
11	In what ways do NCC Cadets uphold the principles of service, and how do these responsibilities contribute to fostering patriotism and self-discipline?	10	CO4	K1

CO1	Understand the basic knowledge of electrical quantities such as current, voltage, power, energy and frequency
CO2	Solve the Problems of DC Circuits using different Laws (KVL, KCL, Mesh Analysis and Nodal Analysis)
CO3	Analyze the Electrical Circuits by applying Theorems.
CO4	Analysis of single-phase and three phase ac circuits
CO5	Identify the type of electrical machine used for that particular application.
CO6	Design Three Phase induction motor

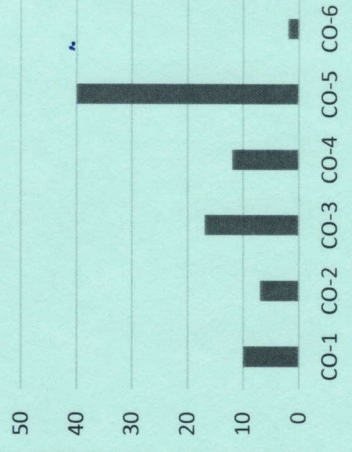
GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution



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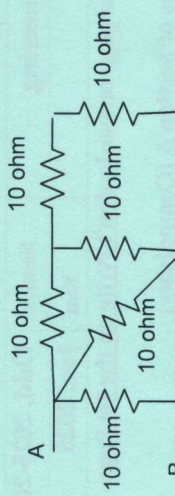
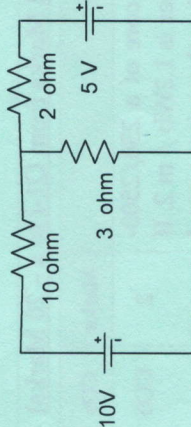
[30-01-20026]
END SEM EXAMINATION
School of Engineering & IT

Branch	ME / EEE / AIDS (IBM)	Program	B. Tech
Subject Name	Basic Electrical Engineering	Session	Odd, 2025-2026
Semester	I	Year	Jan, 2026
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will Result in the Cancellation of the Paper(s). 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)

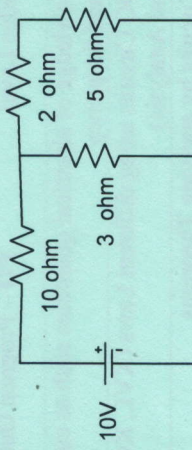
Q.N	QUESTIONS	Marks	COs	KL
1				
i	The maximum flux density in the core of a 230/2500-volts, 50-Hz single-phase transformer is 1.2Wb / m ² . If the e.m.f. per turn is 8 volt, determine the primary and secondary turns.	2	CO5	K1
ii	Write down any two difference between Ideal and practical transformer?	2	CO5	K1
iii	What are the function of brush and commutator in DC machine?	2	CO3	K2
iv	Write any limitations of superposition theorem.	2	CO6	K1
v	Define apparent power, active power and reactive power.	2	CO3	K2
vi	A three phase 4 pole 50 Hz Induction motor runs at 1500rpm. Find synchronous speed	2	CO2	K1
vii	Define the back EMF.	2	CO5	K5
viii	Define the voltage regulation of transformer.	2	CO5	K4
ix	Enlist any four applications DC shunt Motor.	2	CO5	K4
x	Highlight the voltage and current relationship in star and delta connection.	2	CO4	K3

Section B (Answer any FOUR out of SIX) - 20 Marks
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Find the equivalent resistance between A and B? 	05	CO2	K4
3	Derive the expression of current through a RL circuit for DC supply.	05	CO4	K3
4	The no-load voltage ratio in a 1-phase, 50-Hz, core-type transformer is 1,200/440. Find the number of turns in each winding if the maximum flux is to be 0.075 Wb.	05	CO5	K5
5	As shown in the figure, determine the values of current through 3 ohm branches using Thevenin theorem. 	05	CO3,	K5
6	Draw the phase diagram of practical transformer for Inductive load.	05	CO5	K5
7	Derive the torque equation of dc motor	05	CO4	K4

Section C (Answer any THREE out of FIVE) - 30 Marks-
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	A long-shunt compound generator delivers a load current of 50 A at 550 V and has armature, series field and shunt field resistances of 0.05Ω, 0.03Ω and 250 Ω respectively. Calculate the generated voltage and the armature current. Allow 1 V per brush for contact drop.	10	CO5	K4
9	Derive the expression of power factor for the measurement of power using two wattmeter methods.	10	CO1	K3
10	Find the values of current through 5 ohm using Norton's Theorem.	10	CO3	K5

11	 <p>Draw the electrical equivalent circuit of single phase Transformer and write the mathematical equation of effective resistance, impedance, EMF and current referred to the primary side.</p>	10	CO5	K5
12	A resistor and a capacitor in series are connected to a 130 V, 60 Hz supply. The impedance of the circuit is 86 ohms and the power consumed is also 86 W. Determine the value of R and C.	10	CO4	K4



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[28-01-2026]
END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE / AIDS (IBM)	Branch	B. Tech
Subject Name	Engineering Physics	Session	Odd, 2025-26
Semester	I	Year	Jan, 2026
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page <u>Backside</u> Answer all Questions of Section A (Compulsory) Answer Any <u>Four</u> out of Six of Section B Answer Any <u>Three</u> out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material</u>, <u>Arguments with the Invigilator</u> or <u>Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x – 20 Marks)

Q. N	QUESTIONS	Marks	COs	KL
1				
i	State the Heisenberg uncertainty principle?	2	CO4	K2
ii	What is Ultraviolet catastrophe? Explain?	2	CO4	K3
iii	Compute Significance of Plank's Constant?	2	CO4	K3
iv	What do you mean by SHM?	2	CO1	K2
v	What do you mean by population inversion?	2	CO2	K2
vi	Interpret direct and indirect bandgaps in semiconductors?	2	CO6	K2
vii	What does differential form of Gauss law magnetostatics mean?	2	CO3	K3
viii	Summarize conditions for critical Damping and light damping?	2	CO1	K2
ix	Explain the working principle of optical fibres in communication system?	2	CO5	K3
x	Draw the V-I characteristics of an Ideal p-n Junction diode?	2	CO6	K3

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

QUESTIONS	Marks	COs	KL
Define simple harmonic motion? Derive the differential equation for SHM from Displacement?	05	CO1	K1
Distinguish between stimulated and spontaneous emission.	05	CO5	K2
Equation of motion of a particle is given by $a = -bx$, where a is the acceleration, x is the displacement from the mean position and b is any constant. Evaluate the time period of the particle	05	CO1	K4
Distinguish between the spectra obtained from a prism and grating?	05	CO2	K3
Analyze the physical significance of Maxwell's four equations?	05	CO3	K4
Describe modified form of differential form of Ampere's law for Electromagnetic field	05	CO3	K4

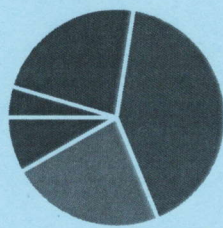
Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

QUESTIONS	Marks	COs	KL
How a PN junction diode is formed? Explain its V-I characteristics?	10	CO6	K3
What do you mean by matter wave? If an electron is subjected to a potential difference V volts then prove that the corresponding de Broglie wavelength is $\lambda = (12.26/\sqrt{V}) \text{ \AA}$.	10	CO1	K3
Solve the problem of a particle free to move within a potential box with rigid walls extending from $x=0$ to $x=a$. Prove that the energy is given by $E_n = h^2 n^2 \pi^2 / 2ma^2$. Plot the wave functions for $n=1,2$ and 3.	10	CO4	K2
Give the description of gas laser? Explain the construction and working of gas Laser?	10	CO2	K3
Evaluate that Velocity of Electromagnetic wave in Free Space is equal to velocity of light?	10	CO3	K4

Course Outcomes	CO1	CO2	CO3	CO4	CO5	CO6
Remembering proficiency and perceptive of the basic concepts of different types of wave equations						
Understanding the principles of optics to solve various complex engineering problems.						
Apply fundamental laws and relations to evaluate problems in electricity and electromagnetism						
Analyzing the kinds of experimental results which are incompatible with classical Physics leading to the development of a quantum theory of matter and light						
Evaluate principle, concept, working and application of new technology and comparison of results with theoretical calculations.						
Create and design a wide range of semiconductor devices through the basic concepts						

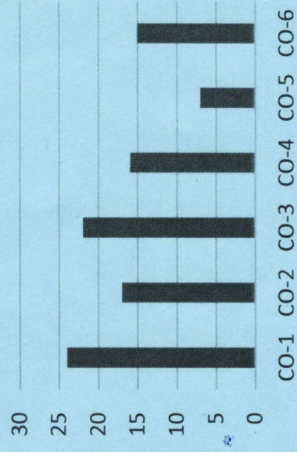
GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution





ARKA JAIN University
Jharkhand



[22-01-2026]
END SEM EXAMINATION
School of Engineering & IT

Program	ME / EEE / AIDS [IBM]	Branch	B. Tech
Subject Name	Computer Aided Engineering Graphics	Session	Odd, 2025-26
Semester	I	Year	Jan, 2026
Time: 1.5 Hour Max. Marks : 35	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Five out of Six of Section B Answer Any Two out of Four of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material</u>, <u>Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to v) – 05 Marks

Q. N	QUESTIONS	Marks	COs	KL
1				
i	What are the sizes of A0 and A1 drawing sheets?	01	CO1	K1
ii	What is the meaning of the "H" symbol used in pencils?	01	CO1	K1
iii	Define a sectional view and state its purpose in engineering drawing.	01	CO2	K2
iv	How does a diagonal scale improve measurement accuracy?	01	CO4	K5
v	Why is the conversion of orthographic views to isometric views important?	01	CO5	K4

Section B (Answer any FIVE out of SIX) – 10 Marks

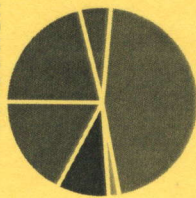
(Each question carries 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Draw the symbolic representation of the First-Angle Projection and Third-Angle Projection with a neat sketch.	02	CO3	K3
3	How is an auxiliary plane used in projections?	02	CO4	K3
4	Define a sectional view with an example of any simple part.	02	CO2	K2

Course Outcomes	CO1	Read and interpret engineering drawings.
	CO2	Appreciate the need of Sectional views of solids and Development of surfaces of solids.
	CO3	Apply computer aided drafting tools to create 2D and 3D objects
	CO4	Sketch conics and different types of solids.
	CO5	Conversion of orthographic projection into isometric view and vice versa manually and by using computer aided drafting.

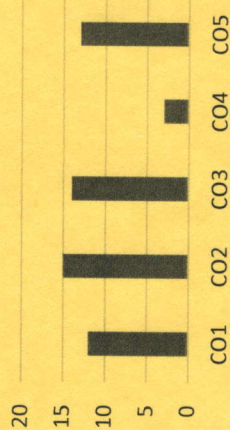
GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



5	How does CAD help in drawing projections of solids?	02	CO3	K5
6	Why is surface development important for material optimization?	02	CO2	K5
7	Define isometric projection. Draw a neat isometric projection of a cube of 30 mm length.	02	CO5	K3

Section C (Answer any TWO out of FOUR) – 20 Marks
(Each question carries 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Draw neat sketches showing the projections of the following points with proper dimensions and point names on the same ground line, keeping the projections 20 mm apart (i) Point A, above the H.P. and 25 mm behind the V.P. (ii) Point B, 30 mm below the H.P. and 20 mm in front of the V.P.	10	CO3	K3
9	Draw a neat sketch of a diagonal scale with an R.F. of 1:2.5, showing centimetres and millimetres, and long enough to measure up to 20 centimetres.	10	CO2	K3
10	Draw the standard Title Block with its dimensions and label all parts with their respective nomenclature.	10	CO1	K1

11	From the Given Isometric Figure (All dimensions are in mm), draw its Front View, Top View, and Right Side View in First-Angle projection.	10	CO5	K6
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