JGI	ARKA JAIN University, Jharkhand — NAAC GRADE A, ACCREDITED UNIVERSITY	[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

- 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Paper(s).**

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 sinx.	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

	x- 3y + 4βz = 0 x + 2y –z = 0 x – y + 2z = 0			

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

Q. No.	QUESTIONS	MARKS	CO	KL
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 $I = \int_{x=1}^{2}\int_{y=0}^{2}(x^2y + yx^3)dxdy$	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 cosx upto 5 terms .	05	CO5	K3

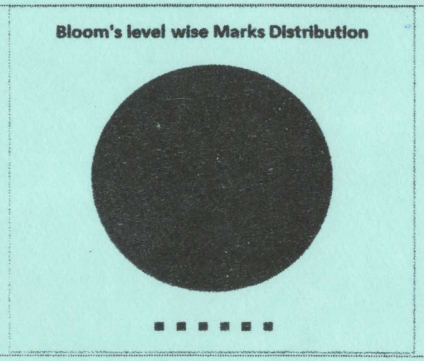
Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

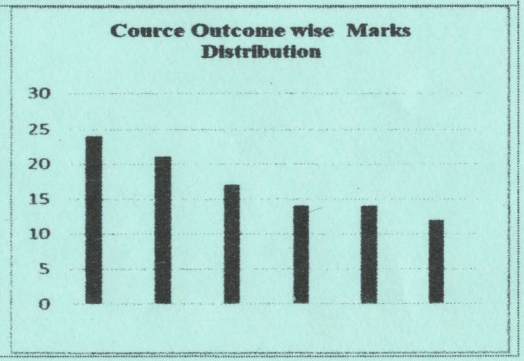
Q. No.	QUESTIONS	MARKS	CO	KL
8	Reduce the given matrix to normal form and hence find its rank A= $\begin{pmatrix} 1 & 3 & 4 \\ -2 & 1 & -1 \\ 3 & -1 & 2 \end{pmatrix}$	10	CO1	K2
9	If $u_1 = \frac{x_2x_3}{x_1}$, $u_2 = \frac{x_3x_1}{x_2}$ and $u_3 = \frac{x_1x_2}{x_3}$, then find Jacobian $\frac{\partial(u_1,u_2,u_3)}{\partial(x_1,x_2,x_3)}$.	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

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

Course Outcomes	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





JGi ARKA JAIN University Jharkhand — NAAC GRADE A ACCREDITED UNIVERSITY			[20-01-2026] END SEM EXAMINATION School of Engineering & IT
Program	**AIDS (IBM)**	**Branch**	**B.TECH**
Subject Name	**Software Foundation Programming with C++**	**Session**	**Odd, 2025-26**
Semester	**I**	**Year**	**Jan, 2026**
Time: 3 Hour Max. Marks : 70	• 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Paper(s)**.		
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)

Q. N 1	QUESTIONS	Marks	COs	KL
i	What is encapsulation in OOP?	2	CO1	K1
ii	Differentiate between procedural programming and object-oriented programming.	2	CO1	K2
iii	What is the use of the cin and cout statements in C++?	2	CO2	K1
iv	List and explain the basic data types available in C++.	2	CO2	K1
v	What is function overloading?	2	CO3	K1
vi	Distinguish between call by value and call by reference.	2	CO3	K2
vii	What is dynamic memory allocation?	2	CO4	K1
viii	What is a pointer?	2	CO4	K1
ix	What is the difference between vector and list?	2	CO5	K2
x	Name any two STL containers and explain there need.	2	CO5	K2

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

Q. No.	QUESTIONS	Marks	COs	KL
2	Elaborate the key concepts of OOP and explain their importance in software development.	05	CO2	K2
3	Explain the difference between the * (dereference) and & (address-of) operators in C++ programmatically.	05	CO5	K3
4	Evaluate the following expression step by step: int x = 5, y = 2; int z = x / y * x + y;	05	CO3	K4
5	Write a C++ program to handle division by zero using exception handling	05	CO5	K3
6	Compare function overloading and function overriding in C++ with examples.	05	CO4	K4
7	Elaborate on this pointer in C++ and its significance.	05	CO5	K2

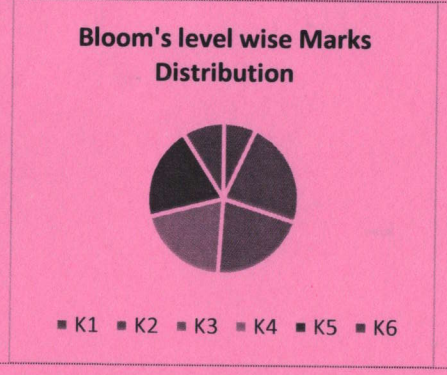
Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

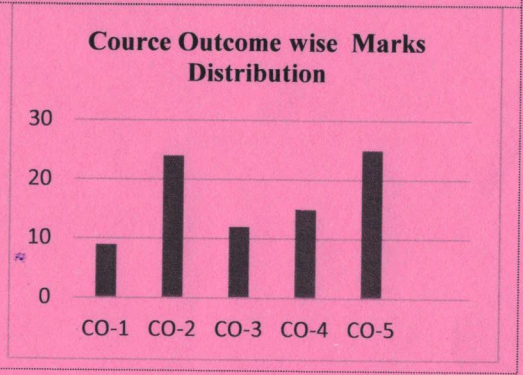
Q. No.	QUESTIONS	Marks	COs	KL
8	How does encapsulation protect sensitive data? Explain with examples of access specifiers.	10	CO2	K2
9	Write a program to swap two variables without using a third variable using pointer.	10	CO3	K3
10	Write a function to check if a given string is a palindrome without using library function	10	CO4	K3
11	Write a C++ program to find the second largest element in an array without sorting the array.	10	CO5	K4
12	What kind of ambiguity occurs in multiple inheritance? How does C++ resolve it? Provide examples.	10	CO4	K5

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

Course Outcomes	CO1	Gain insight into the history, evolution, and various types of programming languages, enabling informed language selection for diverse applications.
	CO2	Comprehend and apply OOP concepts such as encapsulation, inheritance, polymorphism, classes, and objects to design modular and efficient software.
	CO3	Set up a development environment, write, and execute C++ programs while grasping syntax, data types, variables, input/output streams, operators, and control flow structures.
	CO4	Acquire skills in defining functions, function overloading, and understanding constructors, destructors, inheritance, and polymorphism, promoting code reusability and modularity.
	CO5	Dive into advanced topics like memory management, file handling, exception handling, recursion, and the Standard Template Library (STL) to become a versatile C++ programmer.

GRAPHICAL REPRESENTATION





JGI **ARKA JAIN University** Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY		**[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**	• 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
Knowledge Level (KL)	**K1 :** Remembering	**K3 :** Applying	**K5 :** Evaluating
	K2 : Understanding	**K4 :** Analysing	**K6 :** Creating

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

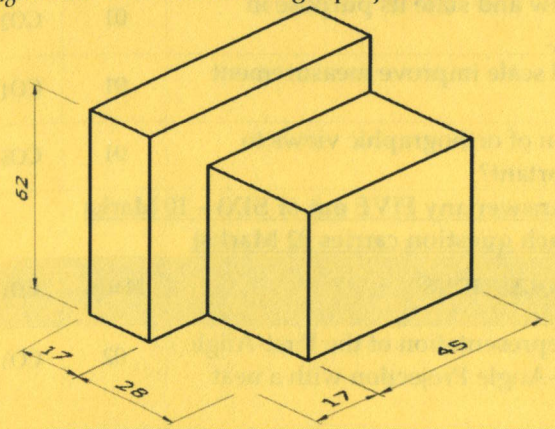
Q. N 1	QUESTIONS	Marks	COs	KL
i	What are the sizes of A0 and A1 drawing sheets?	01	CO1	K1
ii	What is the meaning of the "H" symbol used in pencils?	01	CO1	K1
iii	Define a sectional view and state its purpose in engineering drawing.	01	CO2	K2
iv	How does a diagonal scale improve measurement accuracy?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

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

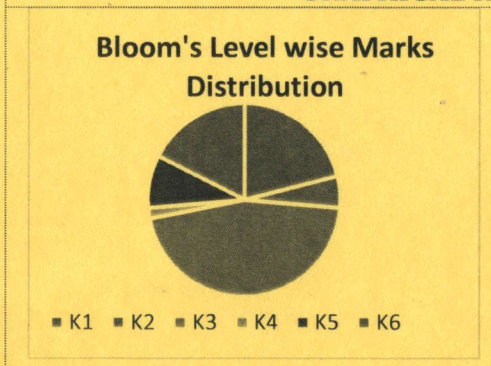
Section C (Answer any TWO out of FOUR) – 20 Marks
(Each question carries 10 Marks)

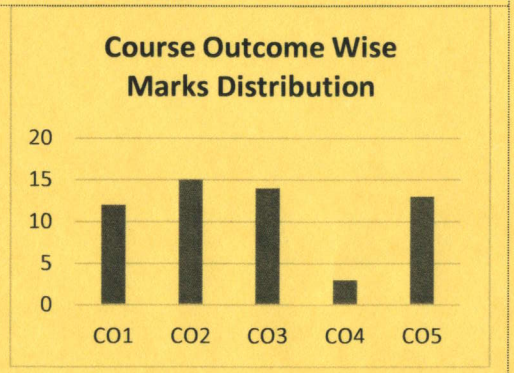
Q. No.	QUESTIONS	Marks	COs	KL
8	Draw neat sketches showing the projections of the following points with proper dimensions and point names on the same ground line, keeping the projections 20 mm apart (i) Point A, above the H.P. and 25 mm behind the V.P. (ii) Point B, 30 mm below the H.P. and 20 mm in 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

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

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





JGI	**ARKA JAIN University** Jharkhand — NAAC GRADE A ACCREDITED UNIVERSITY		[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	• 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Paper(s)**.		
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)

Q. N 1	QUESTIONS	Marks	COs	KL
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)

Q. No.	QUESTIONS	Marks	COs	KL
2	Define simple harmonic motion? Derive the differential equation for SHM from Displacement?	05	CO1	K1
3	Distinguish between stimulated and spontaneous emission.	05	CO5	K2
4	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
5	Distinguish between the spectra obtained from a prism and grating?	05	CO2	K3
6	Analyze the physical significance of Maxwell's four equations?	05	CO3	K4
7	Describe modified form of differential form of Ampere's law for Electromagnetic field	05	CO3	K4

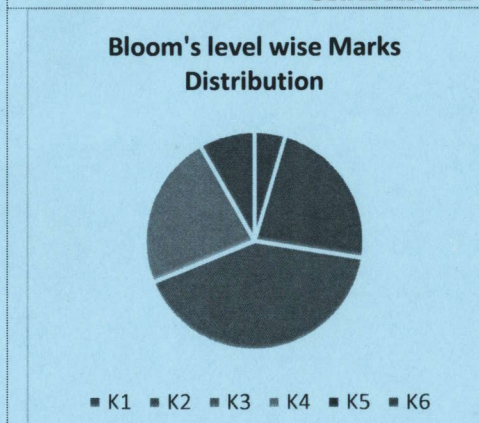
Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

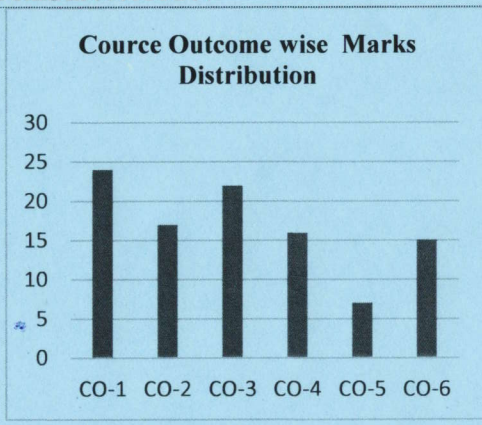
Q. No.	QUESTIONS	Marks	COs	KL
8	How a PN junction diode is formed? Explain its V –I characteristics?	10	CO6	K3
9	What do you mean by matter wave? If an electron is subjected to a potential difference V volts then prove that the corresponding de Broglie wavelength is $\lambda=(12.26/\sqrt{V})$ Å.	10	CO1	K3
10	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 $E_n= \hbar^2 n^2 \pi^2 /2ma^2$. Plot the wave functions for n=1,2 and 3.	10	CO4	K2
11	Give the description of gas laser? Explain the construction and working of gas Laser?	10	CO2	K3
12	Evaluate that Velocity of Electromagnetic wave in Free Space is equal to velocity of light?	10	CO3	K4

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

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

GRAPHICAL REPRESENTATION

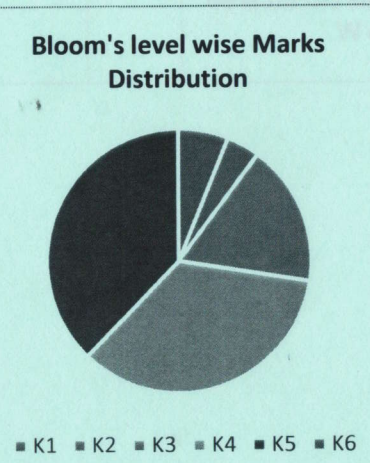


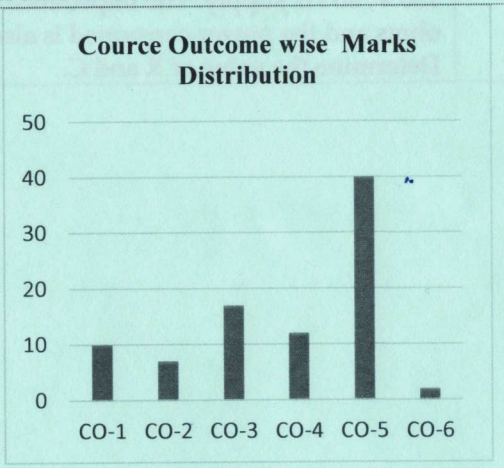


CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

Course Outcomes	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



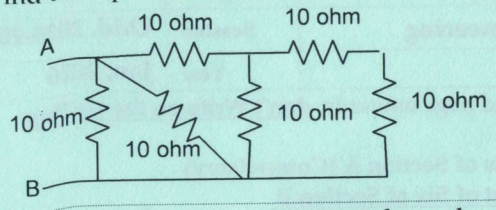
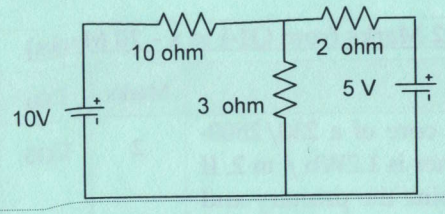


JGI **ARKA JAIN University** Jharkhand — NAAC GRADE A ACCREDITED UNIVERSITY			[30-01-20026] **END SEM EXAMINATION** **School of Engineering & IT**
Branch	**ME / EEE / AIDS(IBM)**	**Program**	**B. Tech**
Subject Name	**Basic Electrical Engineering**	**Session**	**Odd, 2025-2026**
Semester	**I**	**Year**	**Jan, 2026**
Time: 3 Hour Max. Marks : 70	• 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Paper(s).**		
Knowledge Level (KL)	**K1 :** Remembering	**K3 :** Applying	**K5 :** Evaluating
	K2 : Understanding	**K4 :** Analysing	**K6 :** Creating

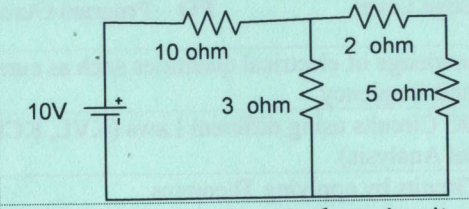
Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)

Q. N 1	QUESTIONS	Marks	COs	KL
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	C02	K1
vii	Define the back EMF.	2	C05	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	C04	K4

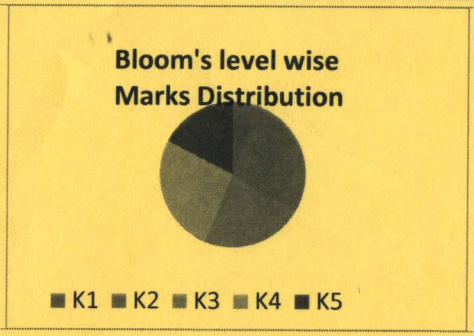
Section C (Answer any THREE out of FIVE) – 30 Marks-
(Each question Carry 10 Marks)

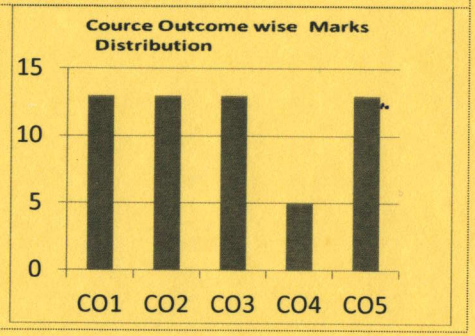
Q. No.	QUESTIONS	Marks	COs	KL
8	A long-shunt compound generator delivers a load current of 50 A at 550 V and has armature, series field and shunt field resistances of 0.05Ω 0.03Ω and 250 Ω respectively. Calculate the generated voltage and the armature current. Allow 1 V per brush for contact drop.	10	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	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.	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

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

Course Outcomes	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





ARKA JAIN University
Jharkhand

NAAC GRADE A
ACCREDITED UNIVERSITY

[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**

Time: 1.5 Hour
Max. Marks : 35

- 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Papers**.

Knowledge Level (KL)	**K1** : Remembering	**K3** : Applying	**K5** : Evaluating
	K2 : Understanding	**K4** : Analysing	**K6** : Creating

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

Q. N 1	QUESTIONS	Marks	COs	KL
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 University Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY	**[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**	• 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 comes under **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
Knowledge Level (KL)	**K1** : Remembering	**K3** : Applying	**K5** : Evaluating
	K2 : Understanding	**K4** : Analysing	**K6** : Creating

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

Q. N 1	QUESTIONS	Marks	COs	KL
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

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)

Q. No.	QUESTIONS	Marks	COs	KL
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

CO- Course Outcomes, **KL**- Knowledge Level, **PO** – Program Outcome

Course Outcomes	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