

17/01/25


ARKA JAIN
University
 Jharkhand

END SEM EXAMINATION
School of Engineering & IT

Branch	ME / EEE / CSE / AIDS / AIML	Program	B. Tech
Subject Name	Engineering Mathematics-I	Semester	I
		Year	January, 2025
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 <u>Unfair Means</u> and will <u>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	State Rolle's theorem.	2	CO5	K1
ii	Find the rank of the matrix: $\begin{pmatrix} 1 & 3 & 3 \\ 0 & 0 & 0 \\ 1 & 2 & 3 \end{pmatrix}$	2	CO5	K5
iii	Define homogeneous functions of the variables x, y, z .	2	CO4	K2
iv	If $f(x, y) = \sin(x^2 + y^3)$, find $\frac{\partial^2 f}{\partial x^2}$ and $\frac{\partial^2 f}{\partial y^2}$.	2	CO3	K2
v	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	CO1	K6
vi	Verify Rolle's theorem for $f(x) = (x-1)(x-2)(x-3)$ on $[1,3]$. If possible, find the required point c.	2	CO4	K3
vii	What are the three Elementary transformations (E-transformation)?	2	CO2	K4
viii	Expand $\sin x$ in powers of x .	2	CO5	K3

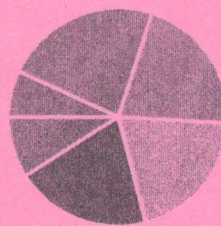
ix	Find all eigen vectors of $A = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ with respect to every eigen value/s of A .	2	CO5	K1
x	Check the consistency of the system of linear equations: $x + y = 1$ $y + z = 2$ $x + 2y + z = 5$	2	CO4	K6
Section B (Answer any FOUR out of SIX) – 20 Marks (Each question Carry 05 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Find the derivative $\frac{dy}{dx}$ for $y = x^x + x^{\sin x}$.	05	CO4	K1
3	Find the area of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1, a > b$.	05	CO3	K6
4	If $z = \sin^{-1} \frac{x+2y+3z}{x^6+y^8+z^8}$, then find the value of $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} + z \frac{\partial u}{\partial z}$.	05	CO6	K2
5	Using Cayley Hamilton theorem find the inverse of the matrix $A = \begin{pmatrix} 3 & 1 \\ -1 & 2 \end{pmatrix}$.	05	CO4	K1
6	Find the rank of the given matrix by row reducing echelon form, $A = \begin{pmatrix} 1 & 3 & 4 \\ -2 & 1 & -1 \\ 3 & -1 & 2 \end{pmatrix}$.	05	CO1	K6
7	Verify Lagrange's theorem for $f(x) = x^3 - 3x$ on $[0,4]$. If possible, find the required point c .	05	CO5	K3
Section C (Answer any THREE out of FIVE) – 30 Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Prove by Taylor's theorem: $\tan^{-1}(x+h) = \tan^{-1} x + h \sin \alpha \frac{\sin \alpha}{1} - (h \sin \alpha)^2 \frac{\sin 2\alpha}{2} + (h \sin \alpha)^3 \frac{\sin 3\alpha}{3} - \dots$, where $x = \cot \alpha$.	10	CO1	K2
9	The circle $x^2 + y^2 = a^2$ is revolving about x axis, find the volume of the solid formed.	10	CO4	K1

10	Test the diagonalizability of $A = \begin{pmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{pmatrix}$. If it is diagonalizable find the corresponding diagonal matrix D to which A is similar to the same.	10	CO3	K4
11	If $I = \int_{x=1}^2 \int_{y=0}^2 (x^2y + yx^3) dx dy$ and $J = \int_{x=1}^2 \int_{y=0}^2 \frac{1}{x^2+y^2} dx dy$, find $I + J$.	10	CO6	K3
12	If $u_1 = \frac{x_2 x_3}{x_1}$, $u_2 = \frac{x_1 x_2}{x_3}$ and $u_3 = \frac{x_1 x_2}{x_3}$, then find $\frac{\partial(u_1, u_2, u_3)}{\partial(x_1, x_2, x_3)}$.	10	CO2	K2

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

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.
Course Outcomes	GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution





■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution

30
25
20
15
10
5
0

CO-1 CO-2 CO-3 CO-4 CO-5 CO-6

20/01/25

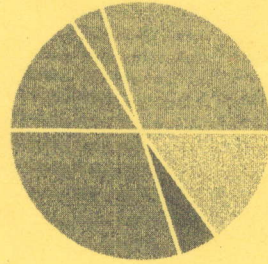
	ARKA JAIN University Jharkhand		END SEM EXAMINATION School of Engineering & IT
Branch	CSE & AIML	Program	B. Tech
Subject Name	Introduction to ML using Python	Semester	I
		Year	January, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't write 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</u>, <u>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)			
Q.N	QUESTIONS	Marks	COs
1			KL
i	What do you understand by byte code?	2	CO1 K1
ii	What is function? What are the different types of functions in Python?	2	CO1 K1
iii	What are the differences between list and tuple?	2	CO2 K2
iv	List four commonly used Python modules?	2	CO1 K1
v	What are the different types of files supported by Python Programming?	2	CO2 K1
vi	Define web scrapping.	2	CO2 K1
vii	What do you understand by machine learning?	2	CO1 K1
viii	What are the different types of machine learning techniques?	2	CO1 K1
ix	List various challenges in machine learning.	2	CO1 K1
x	What is the difference between supervised and unsupervised machine techniques?	2	CO1 K2

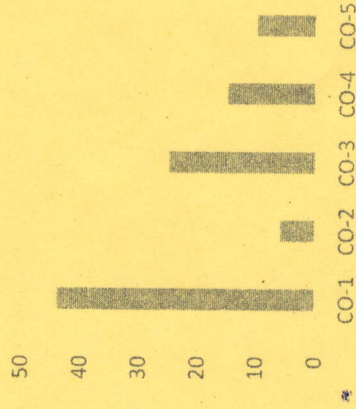
CO1	Understand the basics of Python programming, control flow, looping statements and machine learning.
CO2	Understand Strings, Lists, Tuples, Dictionaries and Files in Python.
CO3	Illustrate supervised and unsupervised machine learning techniques.
CO4	Apply machine learning algorithms to predict the outputs.
CO5	Design machine learning models to analyse public dataset.

GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



Course Outcome wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6



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

Q. No.	QUESTIONS	Marks	COs	KL												
2	Write a program using function to print the sum of digits of a given number?	05	CO1	K6												
3	Write a program to create a copy of an image file using the existing image file.	05	CO1	K6												
4	Write a program to find whether a given number is a strong number or not?	05	CO1	K6												
5	What is the difference between qualitative and quantitative data? Explain how each is used in machine learning projects.	05	CO3	K4												
6	Calculate the regression co-efficient β for the following data points:	05	CO4	K5												
	<table border="1" style="margin-left: 40px;"> <thead> <tr> <th>X</th> <th>Y</th> </tr> </thead> <tbody> <tr><td>1</td><td>7</td></tr> <tr><td>2</td><td>9</td></tr> <tr><td>3</td><td>11</td></tr> <tr><td>4</td><td>13</td></tr> <tr><td>5</td><td>15</td></tr> </tbody> </table>	X	Y	1	7	2	9	3	11	4	13	5	15			
X	Y															
1	7															
2	9															
3	11															
4	13															
5	15															
7	Write a recursive function to calculate factorial of a given number?	05	CO1	K6												

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

Q. No.	QUESTIONS	Marks	COs	KL
8.	Explain different types of machine learning techniques with suitable examples.	10	CO3	K3
9	Describe various Python libraries used for machine learning such as NumPy, Pandas, Scikit-learn, Scipy, Matplotlib.	10	CO5	K3
10	What are the differences between classification and regression? Explain with suitable examples.	10	CO4	K3
11	What is data visualization? Explain various types of graphs used for visualization.	10	CO3	K4
12	Write a Python program to substitute a word with new word present in a given text using regular expression.	10	CO1	K6

20/01/25

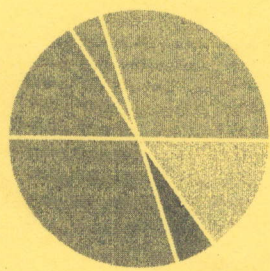
				END SEM EXAMINATION School of Engineering & IT	
Branch	CSE & AIML	Program	B. Tech		
Subject Name	Introduction to ML using Python	Semester	I		
		Year	January, 2025		
Time: 3 Hour Max. Marks : 70	• Start writing from 2nd page onwards; don't write on the 1st Page Backside • Answer all Questions of Section 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 come under <u>Unfair Means</u> and will <u>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	What do you understand by byte code?	2	CO1	K1	
ii	What is function? What are the different types of functions in Python?	2	CO1	K1	
iii	What are the differences between list and tuple?	2	CO2	K2	
iv	List four commonly used Python modules?	2	CO1	K1	
v	What are the different types of files supported by Python Programming?	2	CO2	K1	
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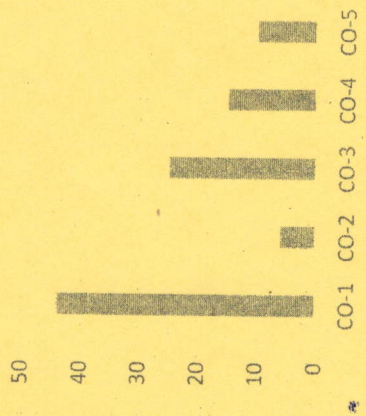
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GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



Course Outcome wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6



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

Q. No.	QUESTIONS	Marks	COs	KL												
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4	Write a program to find whether a given number is a strong number or not?	05	CO1	K6												
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22/01/25



	ARKA JAIN University Jharkhand		END SEM EXAMINATION School of Engineering & IT
Branch	CSE & AIML		Program
Subject Name	English For Skill Enhancement		B. Tech Semester I
Time: 3 Hour Max. Marks : 70	Year January, 2025		
Knowledge Level (KL)	<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>. 		
	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	QUESTIONS	Marks	COs
1			KL
i	What do the authors mean by the phrase 'learning to learn online'?	2	CO6 KL4
ii	Define the term loanword. Name any 2 words borrowed from French language used as in English.	2	CO3 KL3
iii	Write the meaning of the words affect and effect.	2	CO3 KL2
iv	Rewrite the sentence, moving the misplaced modifier to its correct position. <i>Sonia ate the breakfast her mother prepared quickly.</i>	2	CO1 KL6
v	Write the correct form of abbreviation OTT and RBL.	2	CO4 KL5
vi	Rewrite the sentence, to avoid Redundancy: <i>Sunny's cap was red in colour.</i>	2	CO4 KL1
vii	Give two terms on which any material can be classified.	2	CO1 KL1
viii	Write down the meaning of the following words from Computer Science Engineering Vocabulary: linear and loop.	2	CO4 KL2
ix	What does the term Neologism mean?	2	CO2 KL5
x	Write the synonym and the antonym of the word urban.	2	CO3 KL3

Section B (Answer any FOUR out of SIX) – 20 Marks (Each question Carry 05 Marks)			
Q. No.	QUESTIONS	Marks	COs KL
2	Make two words each with the following suffixes: able, scope, ful, ship, and ment.	05	CO1 KL6
3	Explain the term "Preposition" in English grammar, with three examples.	05	CO3 KL5
4	Define the term Reading. What is the difference between intensive and extensive reading?	05	CO4 KL6
5	What is the difference between a Phrase and a Clause? State two difference with example.	05	CO2 KL3
6	Describe a scene of a movie shooting near your home, using describing words.	05	CO6 KL2
7	What do you mean by the word Classification? Mention 4 different ways in which "Festivals" can be classified.	05	CO3 KL4
Section C (Answer any THREE out of FIVE) – 30 Marks (Each question Carry 10 Marks)			
Q. No.	QUESTIONS	Marks	COs KL
8	What is SQ3R method? Explain in detail.	10	CO1 KL1
9	Narrate in your own words, the summary of the chapter Appro JRD.	10	CO2 KL3
10	Write an argumentative essay on the topic: Violence in cinema promotes violence in society.	10	CO5 KL2
11	M/s T.S. Technologies, Jharkhand has advertised on Jobs.com some positions of Web-content Managers. Write a job application to offer your services. Express your willingness to work with them and invent all the other necessary details. Enclose your resume as well.	10	CO5 KL4
12	You are Anubhav / Anjali, the student event coordinator of your CSE Branch. Prepare a report on the Annual Cultural Fest to submit to the Registrar of your University.	10	CO5 KL6

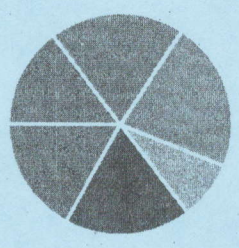
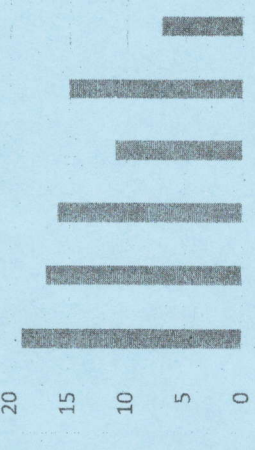
Course Outcomes	CO1	CO2	CO3	CO4	CO5	CO6
Understand the importance of vocabulary and sentence structures.						
Choose appropriate vocabulary and sentence structures for their oral and written communication.						
Demonstrate their understanding of the rules of functional grammar.						
Develop comprehension skills from the known and unknown passages.						
Take an active part in drafting paragraphs, letters, essays, abstracts, précis and reports in various contexts						
Acquire basic proficiency in reading and writing modules of English.						
GRAPHICAL REPRESENTATION						
Bloom's Level Wise Marks Distribution			Course Outcome Wise Marks Distribution			
<p>■ KL1 ■ KL2 ■ KL3 ■ KL4 ■ KL5 ■ KL6</p>						

22/01/25


	ARKA JAIN University Jharkhand		END SEM EXAMINATION School of Engineering & IT
Branch	CSE & AIML		Program B. Tech
Subject Name	English For Skill Enhancement		Semester I
Time: 3 Hour Max. Marks : 70	Year January, 2025		
Knowledge Level (KL)	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't</u> Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four 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, Arguments with the Invigilator or 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>. 		
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viii	Write down the meaning of the following words from Computer Science Engineering Vocabulary: linear and loop.	2	CO4 KL2
ix	What does the term Neologism mean?	2	CO2 KL5
x	Write the synonym and the antonym of the word urban.	2	CO3 KL3

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Q. No.	QUESTIONS	Marks	COs
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3	Explain the term "Preposition" in English grammar, with three examples.	05	CO3
4	Define the term Reading. What is the difference between intensive and extensive reading?	05	CO4
5	What is the difference between a Phrase and a Clause? State two difference with example.	05	CO2
6	Describe a scene of a movie shooting near your home, using describing words.	05	CO6
7	What do you mean by the word Classification? Mention 4 different ways in which "Festivals" can be classified.	05	CO3
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9	Narrate in your own words, the summary of the chapter Appro JRD.	10	CO2
10	Write an argumentative essay on the topic: Violence in cinema promotes violence in society.	10	CO5
11	M/s T.S. Technologies, Jharkhand has advertised on Jobs.com some positions of Web-content Managers. Write a job application to offer your services. Express your willingness to work with them and invent all the other necessary details. Enclose your resume as well.	10	CO5
12	You are Anubhav/Anjali, the student event coordinator of your CSE Branch. Prepare a report on the Annual Cultural Fest to submit to the Registrar of your University.	10	CO5

CO1	Understand the importance of vocabulary and sentence structures.
CO2	Choose appropriate vocabulary and sentence structures for their oral and written communication.
CO3	Demonstrate their understanding of the rules of functional grammar.
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CO5	Take an active part in drafting paragraphs, letters, essays, abstracts, précis and reports in various contexts
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GRAPHICAL REPRESENTATION	
Bloom's Level Wise Marks Distribution	
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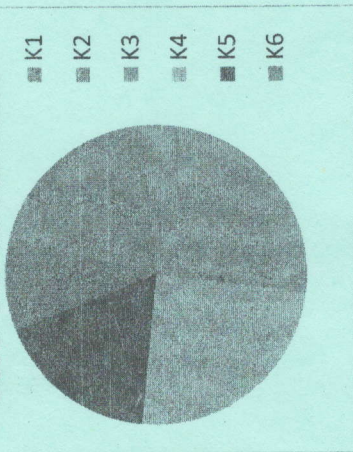
	ARKA JAIN University Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY	END SEM EXAMINATION School of Engineering & IT
Branch	CSE & AIML	Program	B. Tech
Subject Name	Engineering Chemistry	Semester	I
		Year	January, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd 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). 		
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Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q. N	QUESTIONS	Marks	COs
1			KL
i	Write the monomer of a) PVC, b) Bakelite c) Teflon.	2	CO3 K3
ii	Write the classification of fuel on the basis of their physical state.	2	CO2 K1
iii	Define the term Chromophore with example.	2	CO4 K2
iv	Explain the existence of He ₂ ⁺ molecule on the basis of MOT theory?	2	CO1 K3
v	Write the classification of fuel with proper example.	2	CO1 K4
vi	Give the methods used to protect from corrosion.	2	CO5 K5
vii	Distinguish between HCV and LCV.	2	CO2 K1
viii	Draw the shape and structure of d orbitals?	2	CO4 K2
ix	What do you understand aeration corrosion?	2	CO3 K4
x	Explain the preparation, properties and uses of the Nylon 6 polymer.	2	CO5 K3

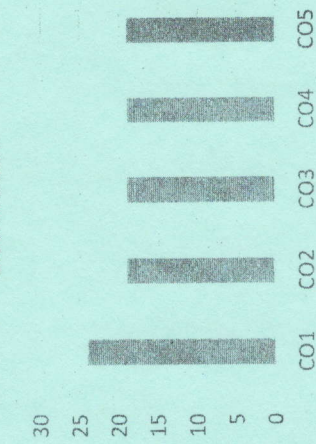
CO1	Students will acquire the basic knowledge of electrochemical procedures related to corrosion and its control.
CO2	To understand the present day up-to-date knowledge of the contemporary energy sources.
CO3	They can learn the fundamentals and general properties of polymers and other engineering materials.
CO4	They can predict potential applications of chemistry and practical utility in order to become good engineers and entrepreneurs.
CO5	Acquire Basic knowledge of Chemistry to appreciate its applications in the field of Medicine, data storage devices and electronics.

GRAPHICAL REPRESENTATION

Bloom wise mark distribution



Course outcome wise mark distribution




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

Q. No.	QUESTIONS	Marks	COs	KL
2	What do you understand by LCAO method? What are the conditions necessary for combination of atomic orbitals?	05	CO2	K2
3	Write the electronic configuration, energy level diagram, calculate the bond order and predict the magnetic behavior of CO and O ₂ .	05	CO4	K4
4	Illustrate the construction and working of Zn - Air battery. Give the half-cell reaction and advantages of these cells.	05	CO1	K5
5	Discuss about Poly Vinyl Alcohol polymer. Write the application of biodegradable polymers.	05	CO3	K6
6	Discussed the composition, properties and application of Liquefied petroleum gaseous and Producer gaseous.	05	CO2	K4
7	What do you understand by UV-visible spectroscopy? What are the different types of transition that takes place on absorption of energy in UV-visible region?	05	CO5	K3

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

Q. No.	QUESTIONS	Marks	COs	KL
8	What do you understand by dry corrosion and wet corrosion? State their distinguishing features. Describe the properties of metal that effect the rate of corrosion.	10	CO3	K3
9	Explain how the crystal field theory for octahedral complex. Calculate the CFSE value for d ₄ , d ₆ , d ₇ , d ₈ for low spin and high spin and also calculate its magnetic moment	10	CO2	K4
10	Distinguish between : a. Thermosetting and thermoplastic b. Natural rubber and vulcanized rubber	10	CO1	K2
11	Write the advantages of biodiesel and explain the transesterification process of biodiesel.	10	CO4	K3
12	Explain the principle of NMR spectroscopy. What is meant by term chemical shift? Explain how the NMR spectrum of a compound is recorded with example.	10	CO5	K4

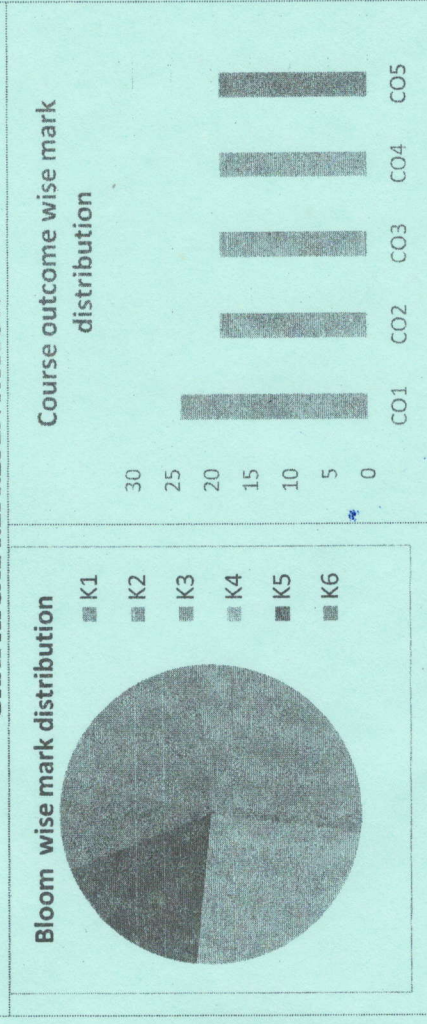
24/01/25

	ARKA JAIN University Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY	END SEM EXAMINATION School of Engineering & IT
Branch	CSE & AIML	Program	B. Tech
Subject Name	Engineering Chemistry	Semester	I
		Year	January, 2025
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 <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, Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will result 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
i	Write the monomer of a) PVC, b) Bakelite c) Teflon.	2	CO3
ii	Write the classification of fuel on the basis of their physical state.	2	CO2
iii	Define the term Chromophore with example.	2	CO4
iv	Explain the existence of He ₂ ⁺ molecule on the basis of MOT theory?	2	CO1
v	Write the classification of fuel with proper example.	2	CO1
vi	Give the methods used to protect from corrosion.	2	CO5
vii	Distinguish between HCV and LCV.	2	CO2
viii	Draw the shape and structure of d orbital's?	2	CO4
ix	What do you understand aeration corrosion?	2	CO3
x	Explain the preparation, properties and uses of the Nylon 6 polymer.	2	CO5

CO1	Students will acquire the basic knowledge of electrochemical procedures related to corrosion and its control.
CO2	To understand the present day up-to-date knowledge of the contemporary energy sources.
CO3	They can learn the fundamentals and general properties of polymers and other engineering materials.
CO4	They can predict potential applications of chemistry and practical utility in order to become good engineers and entrepreneurs.
CO5	Acquire Basic knowledge of Chemistry to appreciate its applications in the field of Medicine, data storage devices and electronics.

GRAPHICAL REPRESENTATION





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

Q. No.	QUESTIONS	Marks	COs	KL
2	What do you understand by LCAO method? What are the conditions necessary for combination of atomic orbitals?	05	CO2	K2
3	Write the electronic configuration, energy level diagram, calculate the bond order and predict the magnetic behavior of CO and O ₂ .	05	CO4	K4
4	Illustrate the construction and working of Zn - Air battery. Give the half-cell reaction and advantages of these cells.	05	CO1	K5
5	Discuss about Poly Vinyl Alcohol polymer. Write the application of biodegradable polymers.	05	CO3	K6
6	Discussed the composition, properties and application of Liquefied petroleum gaseous and Producer gaseous.	05	CO2	K4
7	What do you understand by UV-visible spectroscopy? What are the different types of transition that takes place on absorption of energy in UV-visible region?	05	CO5	K3

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

Q. No.	QUESTIONS	Marks	COs	KL
8	What do you understand by dry corrosion and wet corrosion? State their distinguishing features. Describe the properties of metal that effect the rate of corrosion.	10	CO3	K3
9	Explain how the crystal field theory for octahedral complex. Calculate the CFSE value for d ₄ , d ₆ , d ₇ , d ₈ for low spin and high spin and also calculate its magnetic moment	10	CO2	K4
10	Distinguish between : a. Thermosetting and thermoplastic b. Natural rubber and vulcanized rubber	10	CO1	K2
11	Write the advantages of biodiesel and explain the transesterification process of biodiesel.	10	CO4	K3
12	Explain the principle of NMR spectroscopy. What is meant by term chemical shift? Explain how the NMR spectrum of a compound is recorded with example.	10	CO5	K4

28/01/25

	ARKA JAIN University Jharkhand		END SEM EXAMINATION School of Engg. & IT	
			Branch	CSE/ AIML
Subject Name	Manufacturing Practice	Program	B.Tech	
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 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. 	Semester	I	
Knowledge Level (KL)		K1 : Remembering K2 : Understanding K3 : Applying K4 : Analysing K5 : Evaluating K6 : Creating	Year	January, 2025

Section A (Each question Carry 01 Marks from Q1-i to v) - 05 Marks			
Q. N	QUESTIONS	Marks	COs
1			KL
i	What do you understand by Manufacturing Process?	01	CO3 K1
ii	What safety precautions should be taken during forging?	01	CO1 K2
iii	What is extrusion?	01	CO1 K4
iv	Draw a schematic diagram of sand mould and label each element.	01	CO2 K3
v	What are different pattern allowances?	01	CO3 K4

Section B (Answer any FIVE out of SIX) - 10 Marks (Each question Carry 02 Marks)			
Q. No.	QUESTIONS	Marks	COs
2	Why are safety precautions required during welding?	02	CO4 K1
3	Write a brief note on pattern allowance.	02	CO1 K6
4	List the operations that can be perform in lathe.	02	CO5 K1
5	Classify Forging.	02	CO1 K2
6	What are the advantages of metal forming?	02	CO1 K5
7	What are the different parts of lathe?	02	CO5 K6

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

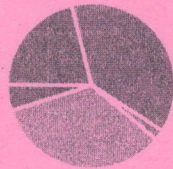
Q. No.	QUESTIONS	Marks	COs	KL
8	What is the difference between MIG welding and TIG welding?	10	CO3	K1
9	Differentiate between I) Additive Manufacturing and Subtractive Manufacturing	10	CO2	K2
10	Differentiate between I) Primary Manufacturing and Secondary Manufacturing	10	CO1	K3
11	What are the differences between hot forging and cold forging?	10	CO3	K5

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

Course Outcomes	CO1	CO2	CO3	CO4	CO5
	Understand the basic manufacturing processes for manufacturing different components.	Apply the specific manufacturing process for getting the desired type of output.	Understand the basic metal forming process for manufacturing different components.	Analyze the process of casting, forging and welding required for specific condition.	Evaluate the entire manufacturing process involved in manufacturing components.

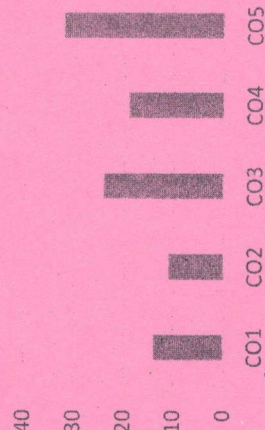
GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution





■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



28/01/25

 ARKA JAIN University Jharkhand	 NAAC GRADE A ACCREDITED UNIVERSITY	END SEM EXAMINATION School of Engg. & IT			
		Branch	CSE / AIML	Program	B.Tech
Subject Name	Manufacturing Practice			Semester	I
	<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 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. 			Year	January, 2025
Time: 1.5 Hour Max. Marks : 35					
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
1			KL
i	What do you understand by Manufacturing Process?	01	CO3 K1
ii	What safety precautions should be taken during forging?	01	CO1 K2
iii	What is extrusion?	01	CO1 K4
iv	Draw a schematic diagram of sand mould and label each element.	01	CO2 K3
v	What are different pattern allowances?	01	CO3 K4

Section B (Answer any FIVE out of SIX) – 10 Marks (Each question Carry 02 Marks)			
Q. No.	QUESTIONS	Marks	COs
2	Why are safety precautions required during welding?	02	CO4 K1
3	Write a brief note on pattern allowance.	02	CO1 K6
4	List the operations that can be perform in lathe.	02	CO5 K1
5	Classify Forging.	02	CO1 K2
6	What are the advantages of metal forming?	02	CO1 K5
7	What are the different parts of lathe?	02	CO5 K6

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

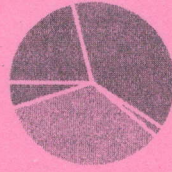
Q. No.	QUESTIONS	Marks	COs	KL
8	What is the difference between MIG welding and TIG welding?	10	CO3	K1
9	Differentiate between I) Additive Manufacturing and Subtractive Manufacturing	10	CO2	K2
10	Differentiate between I) Primary Manufacturing and Secondary Manufacturing	10	CO1	K3
11	What are the differences between hot forging and cold forging?	10	CO3	K5

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

Course Outcomes	CO1	CO2	CO3	CO4	CO5
	Understand the basic manufacturing processes for manufacturing different components.	Apply the specific manufacturing process for getting the desired type of output.	Understand the basic metal forming process for manufacturing different components.	Analyze the process of casting, forging and welding required for specific condition.	Evaluate the entire manufacturing process involved in manufacturing components.

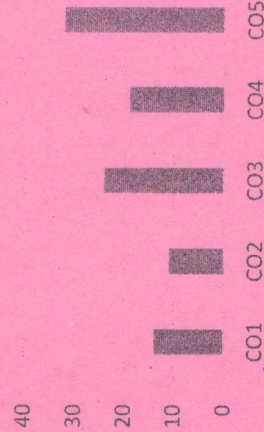
GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution





■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



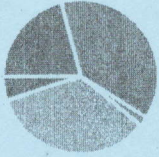
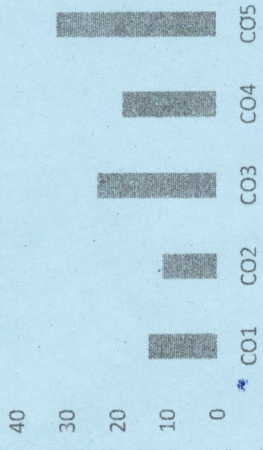
30/01/25

 ARKA JAIN University Jharkhand				END SEM EXAMINATION School of Engineering & IT	
Branch	CSE / AIML	Program	B. Tech	Semester	I
Subject Name	Constitution of India	Year	January, 2025		
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 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. 				
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	Who was the first president of the Constituent Assembly?	01	CO1	K2	
ii	What is the role of Governor in a state?	01	CO3	K1	
iii	When did the Constitution come into force?	01	CO1	K2	
iv	Differentiate between the roles of the Supreme Court and the High Courts	01	CO4	K6	
v	What is a Constituent Assembly?	01	CO1	K1	
Section B (Answer any FIVE out of SIX) – 10 Marks (Each question Carry 02 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	
2	How does the constitution ensure the independence of the judiciary?	02	CO2	K3	
3	Why is the role of the CEO important in the administration of both municipal corporations and Zila Panchayats?	02	CO5	K2	
4	What role do fundamental rights play in protecting citizens under the constitution?	02	CO3	K4	
5	What is the composition of the Indian Parliament?	02	CO3	K1	

6	Discuss about the Demand for a Constituent Assembly	02	CO1	K5
7	What were the various committees of the Constituent Assembly?	02	CO1	K2
Section C (Answer any TWO out of FOUR) - 20Marks				
(Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	What are fundamental rights, and why are they important in a democratic society?	10	CO3	K4
9	Discuss the Summary of the Structure of Governance	10	CO5	K1
10	Explain about the key powers and functions of the Parliament.	10	CO4	K5
11	Discuss on the Salient features of Constitution of India.	10	CO2	K3

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

CO1	Understand the emergence and evolution of Indian Constitution.
CO2	Understand and analyse federalism in the Indian context
CO3	Understand and explain the significance of Indian Constitution as the fundamental law of the land
CO4	Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
CO5	Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail
	Understand Electoral Process, Emergency provisions and Amendment procedure
GRAPHICAL REPRESENTATION	
Bloom's Level wise Marks Distribution	Course Outcome Wise Marks Distribution
 <p>■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6</p>	 <p>CO1 CO2 CO3 CO4 CO5</p>

30/01/25

 ARKA JAIN University <small>Jharkhand</small>		 NAAC GRADE A <small>ACCREDITED UNIVERSITY</small>		END SEM EXAMINATION School of Engineering & IT	
Branch	CSE / AIML	Program	B. Tech	Semester	I
Subject Name	Constitution of India	Year	January, 2025		
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 Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under <u>Unfair Means</u> and will <u>Result in the 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	Who was the first president of the Constituent Assembly?	01	CO1	K2	
ii	What is the role of Governor in a state?	01	CO3	K1	
iii	When did the Constitution come into force?	01	CO1	K2	
iv	Differentiate between the roles of the Supreme Court and the High Courts	01	CO4	K6	
v	What is a Constituent Assembly?	01	CO1	K1	
Section B (Answer any FIVE out of SIX) – 10 Marks (Each question Carry 02 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	
2	How does the constitution ensure the independence of the judiciary?	02	CO2	K3	
3	Why is the role of the CEO important in the administration of both municipal corporations and Zila Panchayats?	02	CO5	K2	
4	What role do fundamental rights play in protecting citizens under the constitution?	02	CO3	K4	
5	What is the composition of the Indian Parliament?	02	CO3	K1	

6	Discuss about the Demand for a Constituent Assembly	02	CO1	K5
7	What were the various committees of the Constituent Assembly?	02	CO1	K2
Section C (Answer any TWO out of FOUR) – 20Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	What are fundamental rights, and why are they important in a democratic society?	10	CO3	K4
9	Discuss the Summary of the Structure of Governance	10	CO5	K1
10	Explain about the key powers and functions of the Parliament.	10	CO4	K5
11	Discuss on the Salient features of Constitution of India.	10	CO2	K3

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

CO1	Understand the emergence and evolution of Indian Constitution. Understand and analyse federalism in the Indian context
CO2	Understand and explain the significance of Indian Constitution as the fundamental law of the land
CO3	Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
CO4	Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail
CO5	Understand Electoral Process, Emergency provisions and Amendment procedure

GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution

