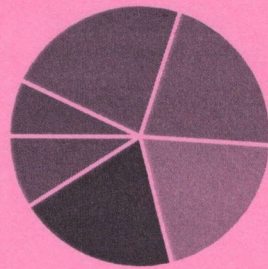


CO1	Write a formal notation for strings, languages and machines.
CO2	Design finite automata to accept a set of strings of a language.
CO3	For a given language determine whether the given language is regular or not.
CO4	Design context free grammars to generate strings of context free language.
CO5	Determine equivalence of languages accepted by Push Down Automata and languages generated by context free grammars.
CO6	Write the hierarchy of formal languages, grammars and machines. Distinguish between computability and non-computability and Decidability and undecidability

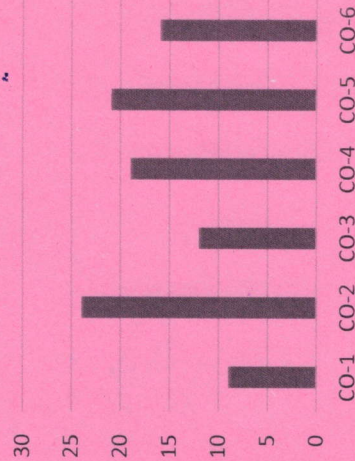
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome wise Marks Distribution**



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**[18-11-2025]**  
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<b>Program</b>	Computer Science & Engineering	<b>Branch</b>	B. Tech
<b>Subject Name</b>	Formal Language and Automata Theory	<b>Session</b>	Odd, 2025-26
<b>Semester</b>	V	<b>Year</b>	Nov, 2025
<b>Time: 3 Hour</b> <b>Max. Marks : 70</b>	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; <b>don't Write on the 1st Page Backside</b></li> <li><b>Answer all Questions of Section A (Compulsory)</b></li> <li><b>Answer Any Four out of Six of Section B</b></li> <li><b>Answer Any Three out of Five of Section C</b></li> <li><b>Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>.</b></li> </ul>		
<b>Knowledge Level (KL)</b>	<b>K1 : Remembering</b>	<b>K3 : Applying</b>	<b>K5 : Evaluating</b>
	<b>K2 : Understanding</b>	<b>K4 : Analysing</b>	<b>K6 : Creating</b>

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

Q. N	QUESTIONS	Marks	COs	KL
i	What is Formal Language and how is it different from natural language?	2	CO1	K1
ii	Define Grammar. Write Chomsky classification of Grammars.	2	CO1	K2
iii	Define Regular Grammar.	2	CO2	K2
iv	Define Greibach Normal Form (GNF).	2	CO2	K2
v	Explain the role of transition function in finite automata. Give an example.	2	CO3	K2
vi	Compare Mealy Machine and Moore machine.	2	CO2	K4
vii	Write down the steps for simplification of Context free grammar.	2	CO4	K4
viii	List the production rules for Context Sensitive grammar, give one example.	2	CO4	K2
ix	Explain the moves in Turing Machine.	2	CO5	K2
x	Explain unit production? Explain the procedure to eliminate unit production.	2	CO5	K2

**Section B (Answer any FOUR out of SIX) - 20 Marks**

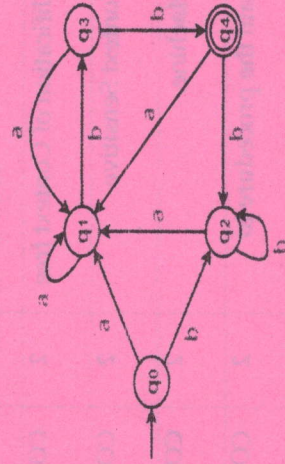
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Construct a Deterministic Finite Automata for the following and draw the transition table Accept language over $\Sigma = \{a, b\}$ consisting of string ending with 'aaa'.	05	CO2	K5
3	Write Regular expression for the following: Accept language over $\Sigma = \{a, b\}$ consisting of string starting with 'aa' or 'bb'.	05	CO3	K4
4	Differentiate between leftmost and rightmost derivation.	05	CO4	K4
5	Obtain DFAs to accept strings of a's and b's having exactly one a.	05	CO3	K4
6	Construct a Deterministic Finite Automata for the following and draw the transition table. Accept language over $\Sigma = \{0, 1\}$ consisting of string starting with '1'.	05	CO2	K5
7	Explain ambiguity with proper example	05	CO3	K3

**Section C (Answer any THREE out of FIVE) - 30 Marks**

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Develop a Pushdown Automaton (PDA) that accepts the language $L = \{0^n 1^n \mid n \geq 1\}$ .	10	CO6	K5
9	Explain the role of transition function in finite automata. Give an example. Describe the steps to minimize a given DFA. Perform minimization for a sample DFA.	10	CO5	K4
10	Compare the computational power of FA, PDA, and Turing Machine with proper example.	10	CO6	K3
11	Minimize the Given DFA:	10	CO3	K3

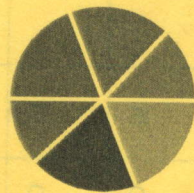


12	$S \rightarrow ASA \mid aB \mid b$ $A \rightarrow B$ $B \rightarrow b / \epsilon$ Convert this Context Free grammar to Chomsky Normal Form. Construct a Transition diagram for Turing Machine to accept the following language. $L = \{0^n 1^n 0^n \mid n \geq 1\}$	10	CO5	K5
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CO1	Understand the concepts of continuous time and discrete time systems.
CO2	Understand sampling theorem and its implications.
CO3	Analyze systems in complex frequency domain.

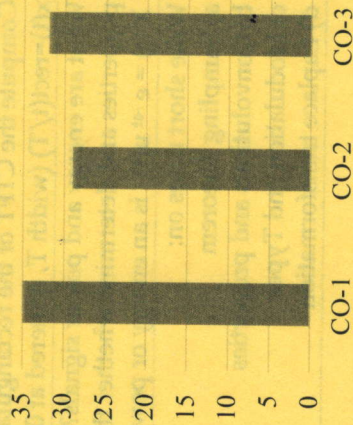
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



- KL1
- KL2
- KL3
- KL4
- KL5
- KL6

**Course Outcome wise Marks Distribution**



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[20-11-2025]  
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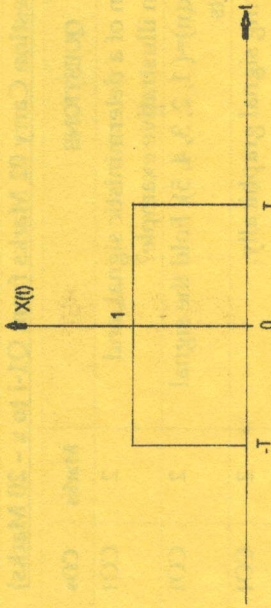
Program	Computer Science & Engineering	Branch	B. Tech
Subject Name	Signals & Systems	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>• Start writing from 2nd page onwards; don't write on the 1st Page Backside</li> <li>• Answer all Questions of Section A (Compulsory)</li> <li>• Answer Any Four out of Six of Section B</li> <li>• Answer Any Three out of Five of Section C</li> <li>• 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).</li> </ul>		
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	KL
1				
i	What is the definition of a deterministic signal, and could you provide an illustrative example?	2	CO1	KL1
ii	A signal is given as $x(n) = (1, 2, 3, 4, 5)_n$ . Fold the signal and delay it by 3 units.	2	CO1	KL1
iii	Represent the following signal graphically, $X(n) = 2^{-n}$ for $-2 \leq n \leq 2$	2	CO1	KL1
iv	What are the conditions that must be met for a signal to be considered periodic?	2	CO1	KL3
v	What purpose does Fourier transformation serve?	2	CO2	KL4
vi	State whether the following system are causal or not. $y(n) = Ax(n) + B$ $y(n) = x(2n)$	2	CO1	KL2
vii	Represent the sequence $x(n) = 2^n u(n)$ , where n varies from 0 to $\infty$ .	2	CO1	KL3
viii	What does LTI system stand for, and provide an explanation of its meaning?	2	CO3	KL1
ix	Give the conditions that determine the stability of a signal	2	CO1	KL2
x	What is the definition of the term "aliasing"?	2	CO2	KL4

**Section B (Answer any FOUR out of SIX) - 20 Marks**

(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Find the circular convolution of the input signal $x(n) = \{1, 2, 4\}$ with impulse signal $h(n) = \{1, 2\}$	5	CO1	KL3
3	If $X_1(n) = 3\delta(n-1) + \delta(n) + 2\delta(n+1)$ $X_2(n) = 2\delta(n-1) + 3\delta(n) + 2\delta(n+1)$ . Determine $X(n)$ by any method, where $X(n)$ is the convolution of $X_1(n)$ and $X_2(n)$ .	5	CO3	KL5
4	Compute the Z-transform of the discrete-time signal: $x(n) = \sin\left(\frac{\pi}{3}n\right)u(n)$ Find $X(z)$ in closed form and state the region of convergence (ROC).	5	CO2	KL4
5	Obtain the Fourier transform of a rectangular varying from $-T$ to $T$ with amplitude of 1.	5	CO3	KL6
				
6	Define briefly: a) Causal and non-causal signal b) Periodic and non-periodic signal	5	CO1	KL1
7	Sketch the following signals: a) $u(t) \times e^{-3t}$ b) $u(-t) \times e^{-3t}$ c) $u(t) \times e^{\alpha t}$ d) $u(-t) \times e^{\alpha t}$	5	CO1	KL2

**Section C (Answer any THREE out of FIVE) - 30 Marks**

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Starting from the trigonometric Fourier series, derive the complex exponential Fourier series representation: $x(t) = \sum_{n=-\infty}^{\infty} C_n \cdot e^{jn\omega_0 t}$	10	CO1	KL1

9	A discrete time signal is given below as, $X(n) = (-0.5, 0.5, 1, 1, 1, 1, 0.5, )$ ↑ Sketch the following in reference to the above signal: a) $x(n-3)$ b) $x(3-n)$ c) $x(2n)$ d) $x(n)u(3-n)$ e) $x[(n-1)^2]$	10	CO2	KL3
10	Compute the CTFT of the rectangular pulse $x(t) = \text{rect}(t/T)$ (width $T$ , centered at 0). What are energy and power signals? State their properties and determine whether the signal $X(t) = e^{-at}u(t)$ is an energy or power signal.	10	CO3	KL6
11	Write short notes on: a) Sampling Theorem b) Convolution and properties c) Modulation and Types d) Laplace transformation	10	CO3	KL5
12	Write short notes on: a) Sampling Theorem b) Convolution and properties c) Modulation and Types d) Laplace transformation	10	CO2	KL2



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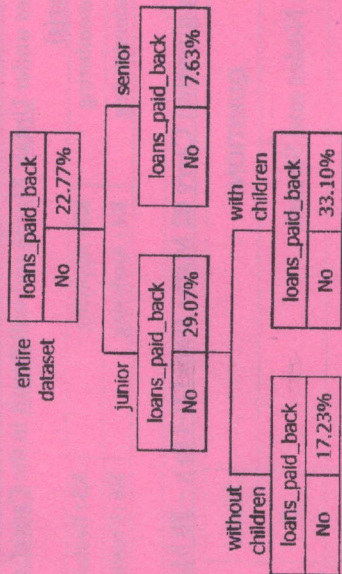
Program	Computer Science & Engineering [AIDS]	Branch	B. Tech
Subject Name	Predictive Analytics	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; <b>don't Write on the 1st Page Backside</b></li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any <u>Four</u> out of Six of Section B</li> <li>Answer Any <u>Three</u> out of Five of Section C</li> <li>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>.</li> </ul>		
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	KL
1				
i	Explain the term Nodes and Streams	2	CO1	K1
ii	What is Super Node?	2	CO1	K1
iii	Explain the matrix output with example	2	CO1	K2
iv	Brief about Conversion Functions	2	CO2	K1
v	What is Simple Sampling Method?	2	CO2	K2
vi	What is Partitioning?	2	CO2	K1
vii	What are the nodes in the modeler?	2	CO3	K1
viii	What is Data partitioning?	2	CO3	K2
ix	What is Model evaluation	2	CO3	K2
x	What is caching data?	2	CO1	K1

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

Q. No.	QUESTIONS	Marks	COs	KL
2	Explain the Stages of CRISP-DM in detail with example.	05	CO1	K2
3	Explain the Sequence Data & Geospatial Data with example	05	CO2	K3
4	Explain how nodes are added in SPSS Modeler?	05	CO3	K3
5	Explain Classification, Segmentation and Association.	05	CO1	K2
6	Explain the below predictive model on the basis of below given Structure.	05	CO1	K3



7 Explain the Data Transformation with example

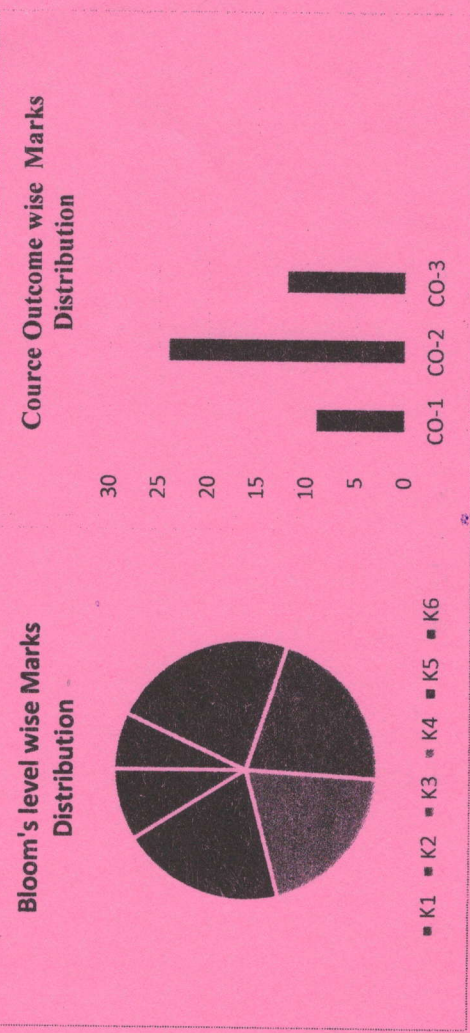
**Section C (Answer any THREE out of FIVE) – 30 Marks**  
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Explain the role of CRISP-DM methodology in predictive modelling with SPSS Modeler.	10	CO1	K4
9	Differentiate between classification and regression models in predictive analytics. Provide one example each.	10	CO1	K4
10	List and explain three common data cleaning techniques in SPSS Modeler.	10	CO2	K3
11	Explain the importance of partitioning data into training and testing sets in predictive modelling.	10	CO3	K4
12	What is Exploratory Data Analysis (EDA)? List its goals.	10	CO3	K2

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

Course Outcomes	CO1	CO2	CO3
	Understand and apply data mining concepts, CRISP-DM methodology, and SPSS Modeler interface for building and deploying predictive models.	Perform data transformation, cleaning, sampling, and efficiency improvement techniques to prepare quality data for predictive analysis.	Utilize SPSS Modeler for data exploration, model building, evaluation, and validation to support effective business decision-making.

**GRAPHICAL REPRESENTATION**





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[29-11-2025]

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Program	Computer Science & Engineering	Branch	B. Tech
Subject Name	Artificial Neural Network	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; <b>don't Write on the 1st Page Backside</b></li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any <b>Four</b> out of Six of Section B</li> <li>Answer Any <b>Three</b> out of Five of Section C</li> <li>Possession of <b>Mobile Phone</b> or any kind of <b>Written Material, Arguments with the Invigilator or Discussion with Co-Student</b> will come under <b>Unfair Means</b> and will <b>Result in the Cancellation of the Paper(s)</b>.</li> </ul>		
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	Describe regularization for deep learning.	2	CO3	K2
ii	Explain supervised learning.	2	CO2	K2
iii	Justify the need of non-linear activation functions in deep neural networks.	2	CO1	K5
iv	Give example of loss function for multiclass classification and binary classification.	2	CO2	K3
v	Define Associative learning.	2	CO4	K2
vi	Explain the applications of SOM.	2	CO5	K3
vii	Differentiate RBF and Multilayer Perceptron (MLP)	2	CO4	K4
viii	What is overfitting in machine learning?	2	CO3	K2
ix	What is the primary goal of gradient descent?	2	CO3	K1
x	Define bias in the context of machine learning models.	2	CO2	K3



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[29-11-2025]

END SEM EXAMINATION  
School of Engineering & IT

Program	Computer Science & Engineering	Branch	B. Tech
Subject Name	Artificial Neural Network	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; don't write on the 1st Page</li> </ul>		
Max. Marks : 70	<p><b>Backside</b></p> <ul style="list-style-type: none"> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Four out of Six of Section B</li> <li>Answer Any Three out of Five of Section C</li> <li>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).</li> </ul>		
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	CO#	KL
1				
i	Describe regularization for deep learning.	2	CO3	K2
ii	Explain supervised learning.	2	CO2	K2
iii	Justify the need of non-linear activation functions in deep neural networks.	2	CO1	K5
iv	Give example of loss function for multiclass classification and binary classification.	2	CO2	K3
v	Define Associative learning.	2	CO4	K2
vi	Explain the applications of SOM.	2	CO5	K3
vii	Differentiate RBF and Multilayer Perceptron (MLP)	2	CO4	K4
viii	What is overfitting in machine learning?	2	CO3	K2
ix	What is the primary goal of gradient descent?	2	CO3	K1
x	Define bias in the context of machine learning models.	2	CO2	K3

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

Q. No.	QUESTIONS	Marks	COs	KL
2	Write short notes on Hopfield Network?	05	CO4	K1
3	Define a neural network. Describe the basic structure and components involved in a neural network architecture.	05	CO1	K1
4	What is Regularization? Discuss different techniques of Regularization.	05	CO3	K2
5	Illustrate & explain the convolution and pooling operation with the help of suitable examples.	05	CO2	K5
6	Differentiate between Hopfield Network and Boltzmann Machine.	05	CO4	K4
7	Compare biological neuron and artificial neuron. Explain with figures	05	CO1	K4

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

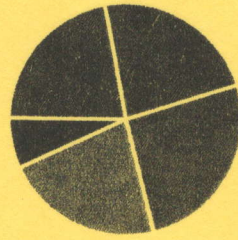
Q. No.	QUESTIONS	Marks	COs	KL
8	List common Neural Architectures and Explain them briefly, pointing out their use cases, advantages and disadvantages.	10	CO1	K2
9	Discuss auto encoders in detail. Point out its applications.	10	CO2	K1
10	Identify and explain common problems encountered during neural network training. How can overfitting be addressed?	10	CO2	K3
11	Explain the most common activation functions used in neural networks. How does each activation function impact the behaviour of the network?	10	CO3	K4
12	Explain the training algorithm of Self organizing Maps with the help of suitable diagrams and examples.	10	CO5	K3

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

CO1	Understand the origin, ideological basics, Learning process and various Neural Architectures of ANN.
CO2	Understand the concepts and techniques of Shallow neural networks through the study of important neural network models.
CO3	Training Deep Neural Networks and Teaching Deep Learners to Generalize.
CO4	Apply Attractor neural networks to particular application.
CO5	Design a self-organizing system that are capable of extracting useful information from the environment within which they operate.

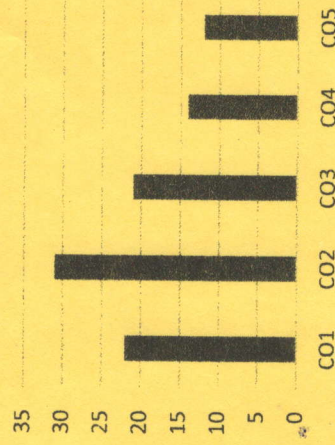
**GRAPHICAL REPRESENTATION**

**Bloom's Level Wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome Wise Marks Distribution**





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[25-11-2025]  
END SEM EXAMINATION  
School of Engineering & IT

Program	Computer Science Engineering	Branch	B. Tech
Subject Name	Database Management Systems	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; <b>don't Write on the 1st Page Backside</b></li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Four out of Six of Section B</li> <li>Answer Any Three out of Five of Section C</li> <li>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>.</li> </ul>		
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
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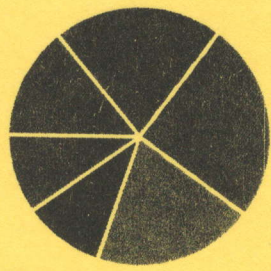
**Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)**

Q.N	QUESTIONS	Marks	COs	KL
1				
i	What is the difference between DDL and DML?	2	CO1	K2
ii	State any two integrity constraints in relational databases.	2	CO1	K1
iii	Define ACID properties of a transaction.	2	CO5	K1
iv	What is normalization?	2	CO5	K1
v	What is ER-Diagram?	2	CO3	K1
vi	Differentiate between entity and relationship in ER modelling.	2	CO3	K2
vii	Define serializability in transaction processing.	2	CO5	K1
viii	What is BCNF?	2	CO5	K1
ix	State any two Armstrong's axioms.	2	CO5	K1
x	What is the role of the data dictionary?	2	CO3	K2

CO1	Describe the fundamental elements of relational database management systems
CO2	Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
CO3	Design ER-models to represent simple database application scenarios
CO4	Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
CO5	Improve the database design by normalization.
CO6	Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

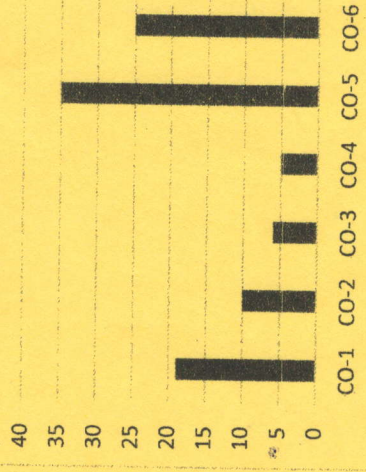
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome wise Marks Distribution**



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

Q. No.	QUESTIONS	Marks	COs	KL
2	Differentiate between tuple relational calculus and domain relational calculus with examples.	05	CO2	K3
3	Write and explain an SQL query to display the second highest salary from an employee table.	05	CO4	K3
4	Differentiate between hierarchical, network, and relational models.	05	CO1	K3
5	Explain Armstrong's axioms with an example.	05	CO5	K3
6	Differentiate between B-tree indexing and hashing techniques with use cases.	05	CO6	K3
7	Explain data independence with suitable examples.	05	CO2	K2

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

Q. No.	QUESTIONS	Marks	COs	KL
8	Discuss in detail the query optimization techniques with suitable examples.	10	CO5	K4
9	Design and explain a concurrency control system using timestamp ordering.	10	CO5	K6
10	Discuss in detail the different types of data models (ER, network, relational, and object-oriented). Compare their advantages and disadvantages.	10	CO1	K2
11	Discuss the security models DAC, MAC, and RBAC with suitable examples.	10	CO6	K5
12	Compare and contrast B-tree and hashing-based storage strategies. Which is more suitable for range queries?	10	CO6	K4



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[25-11-2025]  
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Program	Computer Science & Engineering[AIDS]	Branch	B. Tech
Subject Name	Digital Electronics	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; don't Write on the 1st Page Backside</li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Four out of Six of Section B</li> <li>Answer Any Three out of Five of Section C</li> <li>Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will comes under <b>Unfair Means</b> and will <b>Result</b> in the <b>Cancellation of the Paper(s)</b>.</li> </ul>		
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

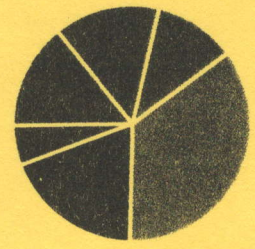
**Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)**

Q.N	QUESTIONS	Marks	COs	KL
1				
i	Define combinational circuits with one example.	2	CO1	K1
ii	State the difference between Multiplexer and DE multiplexer.	2	CO2	K2
iii	What is a Half Adder? Write its Boolean expression.	2	CO2	K1
iv	Represent decimal 3892 in BCD code.	2	CO3	K3
v	Apply De-Morgan's theorem to $((A + B)(C + D))'$ .	2	CO1	K3
vi	List any two applications of flip-flops in real-world digital systems.	2	CO2	K1
vii	Define decoder. Give one application.	2	CO2	K1
viii	Reduce the expression $(X + Y)(X + Y + Z)$ .	2	CO1	K4
ix	Write one difference between PROM and PAL.	2	CO4	K1
x	State one real-time application of FPGA.	2	CO4	K1

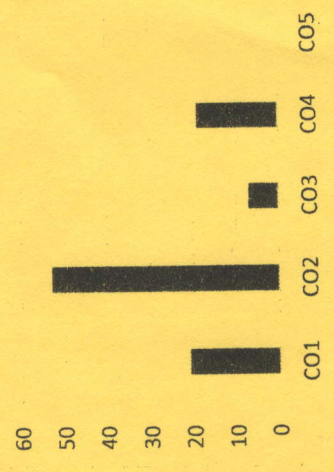
CO1	Understand working of logic families and logic gates.
CO2	Design and implement Combinational and Sequential logic circuits
CO3	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
CO4	Be able to use PLDs to implement the given logical problem.
CO5	Select relevant hydraulic pumps for different applications.

**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	Given $Y(W, X, Y, Z) = \sum m(2, 4, 6, 9, 10, 12, 14)$ , draw the K-map and obtain the simplified expression.	05	CO3	K5
3	What are the differences between Multiplexer and DE multiplexer?	05	CO2	K2
4	Define counters and classify them.	05	CO2	K1
5	Implement a full adder using two half adders and OR gate.	05	CO2	K6
6	Design a 4x4 ROM to implement the truth table for a given logic function.	05	CO4	K6
7	Design a mod-10 (decade) counter using T flip-flops.	05	CO1	K6

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

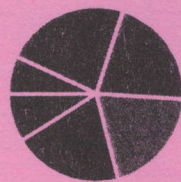
Q. No.	QUESTIONS	Marks	COs	KL
8	Illustrate the logic diagram for SR, JK, D & T flip-flops. Explain their working.	10	CO2	K4
9	Construct a Karnaugh Map for the following function: $F(A, B, C, D, E) = \sum(1, 3, 5, 7, 12, 14, 18, 22, 24, 28, 30)$ and draw the logic diagram.	10	CO1	K5
10	Design a 3-to-8 line decoder and explain the logic diagram and truth table.	10	CO2	K6
11	Explain the architecture and implementation of a Programmable Logic Array (PLA).	10	CO4	K3
12	Design a 3-bit synchronous counter using JK flip-flops and explain the sequence.	10	CO2	K6

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

CO1	State the corporate communication culture.	PO – Program Outcome
CO2	Implement Corporate Social Responsibility and Ethics.	
CO3	Acquire corporate email, mobile and telephone etiquette.	
CO4	Judge the presentation and entrepreneurial skills of individuals.	
CO5	Develop business reports and proposals expected of a corporate professional.	

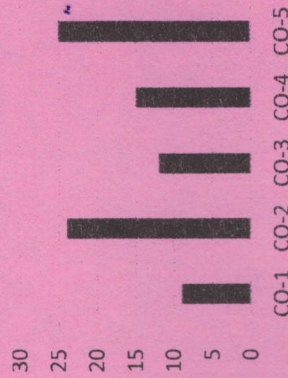
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome wise Marks Distribution**



**ARKA JAIN University**  
Jharkhand



12-11-2025  
END SEM EXAMINATION  
School of Engineering & IT

Program	Computer Science & Engineering [AIDS]
Subject Name	Soft Skills and Interpersonal Communication
Semester	V
Branch	B. Tech
Session	Odd, 2025-26
Year	Nov, 2025

• Start writing from the 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 a mobile phone or any kind of written material, arguments with the invigilator, or discussion with a co-student will come under unfair means. It will result in the cancellation of the paper(s).

Time: 3 Hour  
Max. Marks : 70

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

**Section A (Each question carries 02 Marks from 01-10 X - 20 Marks)**

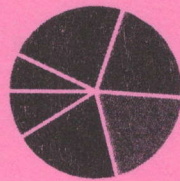
Q.N	QUESTIONS	Marks	COs
1		2	CO1
i	Define Soft Skills.	2	CO1
ii	State down the full form of LSRW.	2	CO1
iii	Formal communication is also known as _____ communication.	2	CO1
iv	Define Synonyms and Antonyms with an example.	2	CO1
v	Name the 2 professors who coined the concept of the 7 Cs.	2	CO1
vi	Write down the Antonyms of the following: • Quiet - Destroy	2	CO1
vii	Paraphrasing is a part of which skill a) Listening b) Speaking c) Reading d) Writing	2	CO1
viii	Give some examples of impolite behaviour.	2	CO1

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

CO1	State the corporate communication culture.
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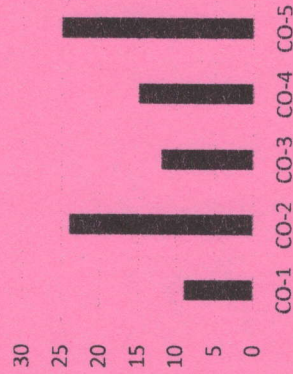
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome wise Marks Distribution**



[22-11-2025]  
END SEM EXAMINATION  
School of Engineering & IT

Program	Computer Science & Engineering [AIDS]	Branch	B. Tech
Subject Name	Soft Skills and Interpersonal Communication	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from the 2nd page onwards; <b>don't write on the 1st Page Backside</b></li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Four out of Six of Section B</li> <li>Answer Any Three out of Five of Section C</li> <li>Possession of a mobile phone or any kind of written material, arguments with the invigilator, or discussion with a co-student will come under <b>unfair means</b>. It will result in the <b>cancellation of the paper(s)</b>.</li> </ul>		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

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

Q. N	QUESTIONS	Marks	COs	KL
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i	Define Soft Skills.	2	CO1	KL1
ii	State down the full form of LSRW.	2	CO1	KL2
iii	Formal communication is also known as _____ communication.	2	CO1	KL2
iv	Define Synonyms and Antonyms with an example.	2	CO1	KL1
v	Name the 2 professors who coined the concept of the 7 Cs.	2	CO1	KL3
vi	Write down the Antonyms of the following: . Quiet . Destroy	2	CO2	KL2
vii	Paraphrasing is a part of which skill? a) Listening b) Speaking c) Reading d) Writing	2	CO1	KL3
viii	Give some examples of impolite behaviour.	2	CO2	KL1

ix	Name the skill that helps in understanding spoken message	2	CO4	KL3
x	The main purpose of speaking is to _____.	2	CO3	KL2
<b>Section B (Answer any FOUR out of SIX) - 20 Marks</b> (Each question carries 05 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Define the following: a) Noun b) Pronoun c) Verb d) Adverb e) Adjective f) Preposition	05	CO1	KL5
3	Explain any 5 types of communication.	05	CO1	KL4
4	Explain the importance of self-esteem.	05	CO3	KL2
5	Why being properly dressed is important.	05	CO2	KL4
6	Write down the vocabulary for the following terms: a) Analyze b) Outline c) Optimistic d) Illustrate e) Anxious	05	CO4	KL3
7	Enumerate the processes of communication in detail.	05	CO2	KL3
<b>Section C (Answer any THREE out of FIVE) - 30 Marks</b> (Each question carries 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Mention all the elements of teamwork.	10	CO2	KL2
9	Describe in brief the qualities of a good leader.	10	CO3	KL1
10	Differentiate between Self-esteem and Self-awareness.	10	CO2	KL2

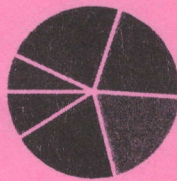
11	Define a Resume. List reasons below and explain why a good resume is important.	10	CO3	KL2
12	Illustrate in detail why the art of choosing correct words at the right time is important in the process of Communication.	10	CO4	KL4

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

CO1	State the corporate communication culture.
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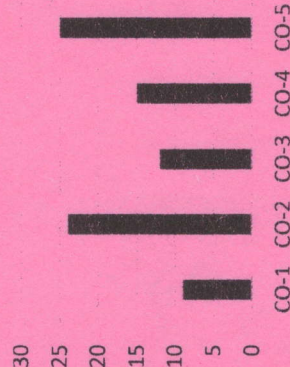
**GRAPHICAL REPRESENTATION**

**Bloom's level wise Marks Distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

**Course Outcome wise Marks Distribution**



**ARKA JAIN University**  
Jharkhand



[22-11-2025]  
END SEM EXAMINATION  
School of Engineering & IT

Program	Computer Science & Engineering [AIDS]	Branch	B. Tech
Subject Name	Soft Skills and Interpersonal Communication	Session	Odd, 2025-26
Semester	V	Year	Nov, 2025

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