DEPARTMENT

OF

COMPUTER SCIENCE & ENGINEERING (DATA SCIENCE)

Lesson Plan

Session: Aug. –Dec., 2025

Semester: 5th

Name: _____

University Roll Number: _____

BUDDHA INSTITUTE OF TECHNOLOGY

CL-1 Sector - 7, GIDA, Gorakhpur - 273209 (U.P)

Phones: (0551) 2990413

Index

TIME TABLE

BUDDHA INSTITUTE OF TECHNOLOGY, GIDA, GORAKHPUR

CLASS TIME TABLE: 2025-26 (ODD)

Dept.: CSE-AIML	w.e.f.: 18 AUGUST, 2025	Semester: 5TH	Section: D	Room No.: 415

Day / Time	9:10-10:05 AM	10:05-11:00 AM	SHORT BREAK (15 Min.)	11:15-12:10 PM	12:10-01:05PM	LUNCH BREAK (40 Min.)	01:45-02:40 PM	2:40-3:35 PM	3:35-4:30 PM
MON	AI (AA)	DBMS (SK)		DBMS-LAB-(D1)-SK-L-401			PPC-E (SKT)	CC (PK)	DAA (SP)
				AI-LAB-(D2)-AA-L-402					
TUES	DAA (SP)	DWDM (ANT)		TECHEDGE-LAB-(D1+D2)-RB-L-307			CC (PK)	AI (AA)	PPC-E (SKT)
WED	TECHEDGE-LAB-(D1+D2)-RB-L-307			DAA-LAB-(D1)-SP-L-304			DBMS (SK)	AI (AA)	CSEP (SK)
				MP-LAB-(D2)-PK-L-305					
THU	AI (AA)	DAA (SP)		MP-LAB-(D1)-PK-L-301			DWDM (ANT)	DBMS (SK)	CC (PK)
				DBMS-LAB-(D2)-SK-L-302					
FRI	AI (AA)	DWDM (ANT)		AI-LAB-(D1)-AA-L-301			CC (PK)	DAA (SP)	DBMS (SK)
				DAA-LAB-(D2)-SP-L-302					
SAT	DBMS (SK)	EITK (RKT)		DWDM (ANT)	DAA (SP)				

	SUBJECT CODE	SUBJECT NAME	FACULTY NAME	LECTURE / WEEK
ACADEMICS	BCS - 501	DATABASE MANAGEMENT SYSTEM (DBMS)	MR. SATISH KUMAR (SK)	5
	BCAI - 501	ARTIFICIAL INTELLIGENCE (AI)	MS. ANJUM AHSAN (AA)	5
	BCS - 503	DESIGN AND ANALYSIS OF ALGORITHM (DAA)	MR. SHAILESH PATEL (SP)	5
	BCS - 058	DATA WAREHOUSE AND DATA MAINING (DWDM)	MR. ANURAG TRIPATHI (ANT)	4
	BCAM - 051	CLOUD COMPUTING (CC)	MR. PANKAJ KUMAR (PK)	4
	BNC - 502	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE (EITK)	DR. RAKESH KUMAR TIWARI (RKT)	1
	BCS - 551	DBMS LAB	MR. SATISH KUMAR (SK)	2
	BCAI - 551	AI LAB	MS. ANJUM AHSAN (AA)	2
	BCS - 553	DAA LAB	MR. SHAILESH PATEL (SP)	2
	BCS - 554	MINI PROJECT LAB (MP LAB)	MR. PANKAJ KUMAR (PK)	2
	-	CSEP	MR. SATISH KUMAR (SK)	1
	-	PRE-PLACEMENT CLASS-ENGLISH (PPC-E)	MR. SANTOSH KUMAR TRIPATHI (SKT)	2
	-	TECHEDGE LAB	MR. RISHABH SRIVASTVA (RB)	4
SELF- LEARNING	-	LIBRARY	--	0
			TOTAL	39

Dr. Shashank Srivastav
HOD

EVALUATION SCHEME

Subject Code	Subject	Sessional Marks	Exam Marks	Total Marks
THEORY SUBJECTS				
BCS 501	**DATABASE MANAGEMENT SYSTEM (DBMS)**	30	70	100
BCAI 501	**ARTIFICIAL INTELLIGENCE (AI)**	30	70	100
BCS 503	**DESIGNS AND ANALYSIS OF ALGORITHM (DAA)**	30	70	100
BCS 058	**DATA WAREHOUSING AND DATA MINING**	30	70	100
BCAM 051	**CLOUD COMPUTING**	30	70	100
BNC 502	**ESSENSE OF INDIAN TRADITIONAL KNOWLEDGE**	30	70	100
PRACTICAL/DESIGN/DRAWING				
BCS 551	**DBMS LAB**	50	50	100
BCAI 551	**DAV LAB**	50	50	100
BCS 553	**DAV LAB**	50	50	100

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AIML)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN DETAILS

Semester: V	Section: D	Course Code: BCS501	Contact Hours /week**: 5**
Course Name: Database Management System			# of credits:4
Faculty name:Mr. Satish Kumar			Designation: Assistant Professor
Sessional Marks:30		End Semester Examination Marks:70	University Exam Hours: 3

Prerequisites if any:
Data, Rows, Columns, Tables

Content delivery methods:	By Face-to-face delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Introduction:** Overview, Database System vs File System, Database System Concept and Architecture, Data Model Schema and Instances, Data Independence and Database Language and Interfaces, Data Definitions Language, DML, Overall Database Structure. **Data Modeling Using the Entity Relationship Model:** ER Model Concepts, Notation for ER Diagram, Mapping Constraints, Keys, Concepts of Super Key, Candidate Key, Primary Key, Generalization, Aggregation, Reduction of an ER Diagrams to Tables, Extended ER Model, Relationship of Higher Degree.	**15**	**CO1**
2	**Relational data Model and Language:** Relational Data Model Concepts, Integrity Constraints, Entity Integrity, Referential Integrity, Keys Constraints, Domain Constraints, Relational Algebra, Relational Calculus, Tuple and Domain Calculus. **Introduction on SQL:** Characteristics of SQL, Advantage of SQL. SQL Data Type and Literals. Types of SQL Commands. SQL Operators and Their Procedure. Tables, Views and Indexes. Queries and Sub Queries. Aggregate Functions. Insert, Update and Delete Operations, Joins, Unions, Intersection, Minus, Cursors, Triggers, Procedures in SQL/PL SQL.	**12**	**CO2**

3	**Data Base Design and Normalization:** Functional dependencies, Normal forms, first, second, and third normal forms, BCNF, inclusion dependence, loss less join decompositions, normalization using FD, MVD, and JDs, alternative approaches to database design.	**13**	**CO3**
4	**Transaction Processing Concept:** Transaction System, Testing of Serializability, Serializability of Schedules, Conflict and View Serializable Schedule, Recoverability, Recovery from Transaction Failures, Log Based Recovery, Checkpoints, Deadlock Handling. Distributed Database : Distributed Data Storage, Concurrency Control, Directory System.	**15**	**CO4**
5	Concurrency Control Techniques: Concurrency Control, Locking Techniques for Concurrency Control, Time Stamping Protocols for Concurrency Control, Validation Based Protocol, Multiple Granularity, Multi Version Schemes, Recovery with Concurrent Transaction, Case Study of Oracle.	**16**	**CO5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Apply knowledge of database for real life applications.
CO2	Construct queries using SQL syntax and Relational Algebra.
CO3	Explain different normal forms to solve the problems of redundancy.
CO4	Explain the concept of Transaction Processing.
CO5	Illustrate the concept of Concurrency control and Failure Recovery.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AIML)

ACADEMIC YEAR 2025-26 (ODD Semester)

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	2	1	-	-	-	-	-	1	2
CO2	3	2	2	2	1	-	-	-	-	-	2	2
CO3	2	1	1	1	1	-	-	-	-	-	2	2
CO4	2	1	1	1	1	-	-	-	-	-	2	2
CO5	2	1	1	1	1	-	-	-	-	-	2	2
Average	2.4	1.4	1.4	1.4	1	-	-	-	-	-	1.8	2

Mapping of CO v/s PSO:

	PSO1	PSO2	PSO3
CO1	2	2	2
CO2	2	2	2
CO3	1	1	2
CO4	1	1	2
CO5	1	1	2
Average	1.4	1.4	2

Correlation levels: **1-Slight (Low)** **2-Moderate (Medium)** **3-Substantial (High)**

Topics to be covered beyond syllabus	Group by and Having clause.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AIML)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction about COs & POs related to the course and Introduction to subject		CO1					
2		Introduction: Overview, Database System vs File System	L2	CO1					
3		Database System Concept and Architecture	L2	CO1					
4		Data Model Schema and Instances, Data Independence and Database Language and Interfaces	L2	CO1					
6		Data Definition Language,DML	L2	CO1					
7		Overall Database Architecture	L2	CO1					
8		Data Modelling Using the Entity Relationship Model: ER Model Concepts	L2	CO1					
9		**Tutorial-1**		CO1					
10		Notation for ER Diagram, Mapping Constraints, Keys	L2	CO1					

11		Concepts of Super Key, Candidate Key, Primary Key	L2	CO1					
12		Generalization, Aggregation	L2	CO1					
13		Reduction of an ER Diagrams to tables	L2	CO1					
14		Extended ER Model, Relationship of Higher Degree	L2	CO1					
15		**Tutorial-2**		CO1					
16	II	Relational data Model and Language: Relational Data Model Concepts, Integrity Constraints	L2	CO2					
17		Entity Integrity, Referential Integrity	L3	CO2					
18		Key Constraint, Domain constraints	L3	CO2					
19		Relational Algebra, Relational Calculus	L3	CO2					
20		Tuple and Domain Calculus	L2	CO2					
21		**Tutorial 3**		CO2					
22		Introduction on SQL: Characteristics of SQL, Advantage of SQL	L2	CO2					
23		SQL Data Type and Literals. Types of SQL Commands,	L3	CO2					

24		SQL Operators and Their Procedure	L3	CO2					
24		Queries and Sub Queries Procedures in SQL/PL SQL	L3	CO2					
25		Aggregate Functions, Joins, Unions, Intersection, Groupby and Having Clause	L3	CO2					
26		Insert, Update and Delete Operations Triggers	L3	CO2					
27		**Tutorial-4**		CO2					
28		Data Base Design and Normalization	L3	CO3					
29		Functional dependencies	L3	CO3					
30		Normal forms, first	L2	CO3					
31		Second	L3	CO3					
32		Third normal forms	L3	CO3					
33		**Tutorial-5**		CO3					
34		**Revision-1**		CO3					
35		BCNF	L2	CO3					

36		Inclusion dependence, loss less join decompositions	L2	CO3					
37		Normalization using FD	L3	CO3					
38		MVD, and JDs	L3	CO3					
39		Alternative approaches to database design	L3	CO3					
40		**Tutorial-6**		CO3					
41	IV	Transaction Processing Concept:	L2	CO4					
42		Testing of Serializability	L2	CO4					
43		Testing of Serializability Contd.	L2	CO4					
44		Serializability of Schedules, Conflict & View Serializable Schedule	L2	CO4					
45		Recoverability, Recovery from Transaction Failures	L2	CO4					
46		**Tutorial-7**		CO4					
47		**Revision-2**		CO4					
48		Log Based Recovery	L2	CO4					
49		Checkpoints	L2	CO4					

50		Deadlock Handling	L2	CO4					
51		Distributed Database, Distributed data storage	L2	CO4					
52		Concurrency Control	L2	CO4					
53		Directory System	L2	CO4					
54		**Tutorial -8**		CO4					
55		**Revision-3**		CO4					
56		Concurrency Control Techniques	L3	CO5					
57		Concurrency Control	L2	CO5					
58		**Revision-4**		CO5					
59		Locking Techniques for Concurrency Control	L2	CO5					
60		**Revision-5**		CO5					
61		Time Stamping Protocols for Concurrency Control	L2	CO5					
62		**Tutorial-9**		CO5					
63		Validation Based Protocol	L2	CO5					
64		Multiple Granularity	L2	CO5					

65		**Revision-6**		CO5					
66		Multi Version Schemes	L2	CO5					
67		Recovery with Concurrent Transaction	L2	CO5					
68		Case Study of Oracle	L2	CO5					
69		Case Study of Oracle (Contd.)	L2	CO5					
70		Case Study of Oracle (Contd.)	L2	CO5					
71		**Tutorial-10**		CO5					

Class Test	**Syllabus**
CT-01	Class 1-Class 22
CT-02	Class 23-Class 45
PRE-AKTU	Full Syllabus

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

TextBooks:

T1. Database Concept" Korth, Silbertz, Sudarshan," ,6th Edition, McGraw Hill 2011.

T2. Elmasri, Navathe, "Fundamentals of Database Systems", Addision Wesley.

Faculty Sign **HOD's Sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING Allied (DS)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN DETAILS

Semester: V	Section: D	Course Code: BCAI 501	Contact Hours /week**: 5**
Course Name: **Artificial Intelligence**			# of credits: 3
Faculty name: **Mrs. Anjum Ahsan**			Designation: Assistant Professor
Sessional Marks: 30		End Semester Examination Marks:70	University Exam Hours: 3

Prerequisites if any:
DL,AI

Content delivery methods:	By Face to face delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**INTRODUCTION:** Introduction– Definition – Future of Artificial Intelligence – Characteristics of Intelligent Agents– Typical Intelligent Agents–Problem Solving Approach to Typical AI problems.	**14**	**CO1**
2	**PROBLEMSOLVINGMETHODS** Problem solving Methods – Search Strategies- Uninformed – Informed – Heuristics – Local Search Algorithms and Optimization Problems – Searching with Partial Observations – Constraint Satisfaction Problems – Constraint Propagation – Backtracking Search – Game Playing – Optimal Decisions in Games – Alpha – Beta Pruning – Stochastic Games	**11**	**CO2**
3	**KNOWLEDGE REPRESENTATION** First Order Predicate Logic–Prolog Programming–Unification–Forward Chaining-Backward Chaining – Resolution – Knowledge Representation – Ontological Engineering-Categories and Objects – Events – Mental Events and Mental Objects–Reasoning Systems for Categories–Reasoning with Default Information	**12**	**CO3**

4	**SOFTWAREAGENTS** Architecture for Intelligent Agents – Agent communication – Negotiation and Bargaining–Argumentation among Agents–Trust and Reputation in Multi-agent systems.	**13**	**CO4**
5	**APPLICATIONS** AI applications – Language Models – Information Retrieval- Information Extraction–Natural Language Processing–Machine Translation–Speech Recognition–Robot–Hardware–Perception – Planing-Moving	**08**	**CO5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Make use of Knowledge of sets and relations for solving the problems of POSET and lattices.
CO2	Apply fundamental concepts of functions and Boolean algebra for solving the problems of logical abilities.
CO3	Utilize the rules of propositions and predicate logic to solve the logical problems.
CO4	Apply the concepts of group theory and their applications for solving the problems.
CO5	Utilize the principles and concepts of graph theory for solving problems.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	2	-	-	-	-	-	-	-	-
CO2	1	1	1	1	-	-	-	-	-	-	-	-
CO3	3	3	3	3	-	-	-	-	-	-	-	-
CO4	2	2	2	2	-	-	-	-	-	-	-	-
CO5	2	2	2	2	-	-	-	-	-	-	-	-

Average	2.00	2.00	2.00	2.00	-	-	-	-	-	-	-	-

Mapping of CO v/s PSO:

	PSO1	PSO2	PSO3
CO1	1	-	-
CO2	1	-	-
CO3	1	-	-
CO4	1	-	-
CO5	1	-	-
Average	1.00	-	-

Correlation levels: **1-Slight (Low)** **2-Moderate (Medium)** **3-Substantial (High)**

Topics to be covered beyond syllabus	Sensors & Actuators in AI Environment

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING Allied (DS)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction–Definition	L2	CO1					
2		Future of Artificial Intelligence	L2	CO1					
3		Sensors & Actuators in AI Environment	L2	CO1					
4		**Tutorial1**		CO1					
5		Characteristics of Intelligent Agents	L2	CO1					
6		Typical Intelligent Agents	L2	CO1					
7		Problem Solving Approach to Typical AI problems.	L2	CO1					
8		**Tutorial2**		CO1					

9	II	Problem solving Methods	L2	CO2					
10		Search Strategies	L2	CO2					
11		Uninformed Search Strategies(BFS,DFS,DLS)	L3	CO2					
12		Uninformed Search Strategies(IDDFS,UCS, Bidirectional)	L3	CO2					
13		Informed–Heuristics Search	L3	CO2					
14		**Tutorial3**		CO2					
16		Local Search Algorithms	L3	CO2					
17		Optimization Problems Searching with Partial Observations	L3	CO2					
18		Constraint Satisfaction Problems Constraint Propagation	L2	CO2					
19		Backtracking Search Game Playing	L3	CO2					
20		Optimal Decisions in Games Alpha–Beta Pruning		CO2					
21		**Tutorial4**	L3	CO2					

22	III	First Order Predicate Logic – Prolog Programming	L3	CO3					
23		Unification – Forward Chaining- Backward Chaining	L3	CO3					
24		Resolution	L3	CO3					
25		Knowledge Representation	L3	CO3					
26		**Tutorial5**		CO3					
27		Ontological Engineering- Categories	L3	CO3					
29		Objects – Events – Mental Events and Mental Objects	L3	CO3					
30		Reasoning Systems for Categories	L3	CO3					
31		Reasoning with Default Information		CO3					
32		**Tutorial6**		CO3					
33		Architecture for Intelligent Agents	L3	CO3					
34	IV	Agent communication	L3	CO4					

35		Negotiation and Bargaining	L3	CO4					
36		**Tutorial7**	L3	CO4					
37		Argumentation among Agents	L3	CO4					
38		Trust and Reputation in Multi-agent systems.	L3	CO4					
39		**Tutorial8**		CO4					
40	V	AI applications	L3	CO5					
41		Language Models	L3	CO5					
42		Information Retrieval	L3	CO5					
43		Information Extraction	L3	CO5					
44		**RevisionClass1**	L3	CO5					
45		**Tutorial9**		CO5					
46		Natural Language Processing	L3	CO5					
47		Machine Translation– Speech Recognition	L3	CO5					

48		Perception	L3	CO5					
49		**RevisionClass2**	L3	CO5					
50		**Tutorial10**		CO5					

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

References:

1. **Artificial Intelligence:** A Modern Approach**, 4th USed. By Stuart Russell** and **Peter Norvig**

Faculty Sign **HOD's Sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING-AIML

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Semester: V	Section: D	Course Code: BCS 503	Contact Hours /week**: 5**
Course name: **Design & Analysis of Algorithm**			# of credits:4
Teacher's name: **Mr. Shailesh Kumar Patel**			Designation: Professor
Sessional Marks:30	End Semester Examination Marks: 70		University Exam Hours: 3

Prerequisites if any:			
Course Code	**Course Name**	**Topic/s**	**Semester**
KCS-101	Programming for Problem Solving	Operators, Decision control statement, looping &Translators	I
KCS-301	Data Structures	Stack	III

Content delivery by using	Chalk/Marker and Board, PPT and Video Lectures

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Introduction:** Algorithms, Analyzing Algorithms, Complexity of Algorithms, Growth of Functions, Performance Measurements, Sorting and Order Statistics - Shell Sort, Quick Sort, Merge Sort, Heap Sort, Comparison of Sorting Algorithms, Sorting in Linear Time.	**15**	**CO1**
2	**Advanced Data Structures:** Red-Black Trees, B – Trees, Binomial Heaps, Fibonacci Heaps, Tries, Skip List	**12**	**CO2**
3	**Divide and Conquer** with Examples Such as Sorting, Matrix Multiplication, Convex Hull and Searching. **Greedy Methods** with Examples Such as Optimal Reliability Allocation, Knapsack, Minimum Spanning Trees – Prim's and Kruskal's Algorithms, Single Source Shortest Paths - Dijkstra's and Bellman Ford Algorithms.	**11**	**CO3**
4	**Dynamic Programming** with Examples Such as Knapsack. All Pair Shortest Paths – Warshal's and Floyd's Algorithms, Resource Allocation Problem. Backtracking, Branch and Bound with Examples Such as Travelling Salesman Problem, Graph Coloring, n-Queen Problem, Hamiltonian Cycles and Sum of Subsets.	**13**	**CO4**
5	**Selected Topics:** Algebraic Computation, Fast Fourier Transform, String Matching, Theory of NP-Completeness, Approximation Algorithms and Randomized Algorithms	**10**	**CO5**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING-AIML

ACADEMIC YEAR 2025-26 (ODD Semester)

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Analyze the asymptotic performance of various algorithms.
CO2	Construct an algorithm for advanced data structure.
CO3	Utilize greedy & divide and conquer approaches to solve a problems.
CO4	Build an algorithm using dynamic programming, backtracking & branch and bound methods to solve a problem.
CO5	Interpret various approximation algorithm & solution to P type, NP type, NPC and NP hard problems.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	-	-	-	-	-	-	-	1
CO2	2	2	1	-	-	-	-	-	-	-	-	1
CO3	2	2	1	-	-	-	-	-	-	-	-	1
CO4	2	2	1	-	-	-	-	-	-	-	-	1
CO5	2	2	1	-	-	-	-	-	-	-	-	1
Average	2	2	1	-	-	-	-	-	-	-	-	1

	PSO1	PSO2	PSO3
CO1	2	1	-
CO2	2	1	-
CO3	2	1	-
CO4	2	1	-
CO5	2	1	-
Average	2	1	-

Correlation levels: **1-Slight (Low)** **2-Moderate (Medium)** **3-Substantial (High)**

Gap in the syllabus	NA

Topics to be covered beyond syllabus	Recurrence Relation, Longest Common Subsequence & Matrix Chain Multiplications

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING-AIML

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Lecture #	Module #	Topics	*RBT Levels	Course Outcome Mapping	Planned Date	Actual Date	Faculty Sign	Remarks
1	I	Algorithms	L2	CO1				
2		Analyzing Algorithms	L2					
3		Complexity of Algorithms	L2					
4		Growth of Functions	L2					
5		Growth of Functions (Contd.)	L2					
6		Growth of Functions (Contd.)	L2					
7		**Tutorial 1**						
8		Performance Measurements	L2					
9		Sorting and Order Statistics - Shell Sort	L2					
10		Quick Sort	L2					
11		Merge Sort, Heap Sort	L2					
12		Comparison of Sorting Algorithms	L2					
13		Sorting in Linear Time	L2					
14		**Tutorial 2**						
15	II	Red-Black Trees,	L2	CO2				
16		Red-Black Trees (Contd.)	L2					
17		Red-Black Trees (Contd.)	L3					
18		B – Trees	L3					
19		B – Trees (Contd.)	L3					
20		**Tutorial 3**						
21		Binomial Heaps	L3					

22		Binomial Heaps (Contd.)	L3					
23		Fibonacci Heaps	L3					
24		Fibonacci Heaps (Contd.)	L3					
25		Tries, Skip List	L3					
26		**Tutorial 4**						
27	III	Divide and Conquer with Examples Such as Sorting	L3	CO3				
28		**Matrix Multiplication**	L3					
29		Knapsack, Convex Hull and Searching	L3					
30		**Longest Common Sub-sequence (LCS)**	L3					
31		Greedy Methods with Examples Such as Optimal Reliability Allocation	L3					
32		**Tutorial 5**	L3					
33		**Revision Class 1**	L3					
34		Minimum Spanning Trees – Prim's Algorithms	L3					
35		Minimum Spanning Trees –Kruskal's Algorithms						
36		Single Source Shortest Paths - Dijkstra's						
37		Bellman Ford Algorithms	L3					
38		**Tutorial 6**	L3					
39		Dynamic Programming with Examples Such as Knapsack	L3					

40	IV	All Pair Shortest Paths – Warshal's and Floyd's Algorithms		CO4				
41		**Revision Class 2**	L3					
42		Resource Allocation Problem, Backtracking	L3					
43		Branch and Bound with Examples Such as Travelling Salesman Problem	L3					
44		**Tutorial 7**	L3					
45		Graph Colouring	L3					
46		**Revision Class 3**						
47		n-Queen Problem	L3					
48		**Revision Class 4**	L3					
49		Sum of Subsets Hamiltonian Cycles						
50		**Tutorial 8**	L3	CO5				
51		**Revision Class 5**	L3					
52	V	Algebraic Computation						
53		Fast Fourier Transform	L3					
54		Theory of NP-Completeness	L3					
55		Approximation Algorithms						
56		**Revision Class 6**	L2					
57		**Tutorial 9**	L2					
58		Randomized Algorithms	L3					
59		Randomized Algorithms (Cont.)						

60		**Tutorial 9**	L3					
61		**Revision Class 7**						

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

References:

Text books :(As per University / Board syllabus)

T1. Thomas H. Coreman, Charles E. Leiserson and Ronald L. Rivest, "Introduction to Algorithms", Printice Hall ofIndia.

T2.E. Horowitz & S Sahni, "Fundamentals of Computer Algorithms",

Faculty Sign **HOD's Sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING Allied (AI&ML)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN DETAILS

Semester: V	Section: D	Course Code: BCS 058	Contact Hours /week: **4**
Course Name: Data Warehousing & Data Mining			No. of credits: 3
Faculty name: Mr. Anurag Tripathi			Designation: Assistant Professor
Sessional Marks: 30		End Semester Examination Marks:70	University Exam Hours: 3

Prerequisites if any:
DATABASE THEORY

Content delivery methods:	By Marker, ICT Tools delivery, Presentation, Tutorial etc.

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	Data Warehousing: Overview, Definition, Data Warehousing Components, Building a Data Warehouse, Warehouse Database, Mapping the Data Warehouse to a Multiprocessor Architecture, Difference between Database System and Data Warehouse, Multi Dimensional Data Model, Data Cubes, Stars, Snow Flakes, Fact Constellations, Concept		**CO1**
2	Data Warehouse Process and Technology: Warehousing Strategy, Warehouse /management and Support Processes, Warehouse Planning and Implementation, Hardware and Operating Systems for Data Warehousing, Client/Server Computing Model & Data Warehousing. Parallel Processors & Cluster Systems, Distributed DBMS implementations, Warehousing Software, Warehouse Schema Design		**CO2**
3	Data Mining: Overview, Motivation, Definition & Functionalities, Data Processing, Form of Data Pre-processing, Data Cleaning: Missing Values, Noisy Data, (Binning, Clustering, Regression, Computer and Human inspection), Inconsistent Data, Data Integration and Transformation. Data Reduction:-Data Cube Aggregation, Dimensionality reduction, Data Compression, Numerosity Reduction, Discretization and Concept hierarchy generation, Decision Tree.		**CO3**

4	Classification: Definition, Data Generalization, Analytical Characterization, Analysis of attribute relevance, Mining Class comparisons, Statistical measures in large Databases, Statistical-Based Algorithms, Distance-Based Algorithms, Decision Tree-Based Algorithms. Clustering: Introduction, Similarity and Distance Measures, Hierarchical and Partitional Algorithms. Hierarchical ClusteringCURE and Chameleon. Density Based Methods-DBSCAN, OPTICS. Grid Based Methods- STING, CLIQUE. Model Based Method –Statistical Approach, Association rules: Introduction, Large Item sets, Basic Algorithms, Parallel and Distributed Algorithms, Neural Network approach.		**CO4**
5	Data Visualization and Overall Perspective: Aggregation, Historical information, Query Facility, OLAP function and Tools. OLAP Servers, ROLAP, MOLAP, HOLAP, Data Mining interface, Security, Backup and Recovery, Tuning Data Warehouse, Testing Data Warehouse. Warehousing applications and Recent Trends: Types of Warehousing Applications, Web Mining, Spatial Mining and Temporal Mining		**CO5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Be familiar with mathematical foundations of data mining tools.
CO2	Understand and implement classical models and algorithms in data warehouses and data mining.
CO3	Characterize the kinds of patterns that can be discovered by association rule mining, classification, and clustering.
CO4	Master data mining techniques in various applications like social, scientific, and environmental context.
CO5	Develop skill in selecting the appropriate data mining algorithm for solving practical problems.

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	2	-	-	-	-	-	-	-	-
CO2	1	1	1	1	-	-	-	-	-	-	-	-
CO3	3	3	3	3	-	-	-	-	-	-	-	-
CO4	2	2	2	2	-	-	-	-	-	-	-	-
CO5	2	2	2	2	-	-	-	-	-	-	-	-
Average	2.00	2.00	2.00	2.00	-	-	-	-	-	-	-	-

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING Allied (AI&ML)

ACADEMIC YEAR 2025-26 (ODD Semester)

Mapping of CO v/s PSO:

	PSO1	PSO2	PSO3
CO1	1	-	-
CO2	1	-	-
CO3	1	-	-
CO4	1	-	-
CO5	1	-	-
Average	1.00	-	-

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

Topics to be covered beyond syllabus	Data Mining in AI/ML

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING Allied (AI&ML)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN

Lecture	Scheduled					Conducted			
	Module	Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	Introduction to Data Warehousing – Overview & Definition	L1	CO1					
2		Data Warehousing Components	L1	CO1					
3		Building a Data Warehouse	L2	CO1					
4		Warehouse Database	L1	CO1					
5		Mapping Data Warehouse to Multiprocessor Architecture	L2	CO1					
6		Difference between Database System & Data Warehouse	L2	CO1					
7		**Tutorial 1**	L2	CO1					
8		Multi-Dimensional Data Model	L2	CO1					
9		Data Cubes, Slices, Dicing, Snow Flakes, Fact Constellations	L3	CO1					
10		Concepts Recap & Use Cases of Data Warehousing	L2	CO1					

11		**Tutorial 2**	L2	CO1					
12	**II**	Warehousing Strategy	L3	CO2					
13		Warehouse Management & Support Processes	L1	CO2					
14		Warehouse Planning & Implementation	L2	CO2					
15		Hardware & Operating Systems for Data Warehousing	L2	CO2					
16		**Tutorial 3**	L2	CO2					
17		Client/Server Computing Model in Data Warehousing	L3	CO2					
18		Parallel Processors & Cluster Systems in Warehousing	L1	CO2					
19		Distributed DBMS in Warehousing	L1	CO2					
20		Warehouse Schema Design	L1	CO2					
21		**Tutorial 4**	L3	CO2					
22		Data Mining – Overview, Motivation, Definition	L1	CO3					
23		Data Mining Functionalities	L1	CO3					

24	III	Data Processing – Form of Data	L1	CO3					
25		Data Pre-processing – Cleaning, Missing Values	L3	CO3					
26		**Tutorial 5**	L3	CO3					
27		Noisy Data Handling	L3	CO3					
28		Data Integration & Transformation	L3	CO3					
29		Data Reduction – Data Cube Aggregation	L3	CO3					
30		Dimensionality Reduction, Data Compression	L3	CO3					
31		Numerosity Reduction, Discretization, Concept Hierarchy Generation	L4	CO3					
32		Decision Tree in Data Mining	L4	CO3					
33		**Tutorial 6**	L4	CO3					
34	IV	Classification – Definition, Data Generalization	L2	CO4					
35		Analytical Characterization	L4	CO4					
36		Analysis of Attribute Relevance	L4	CO4					
37		Mining Class Comparisons	L4	CO4					

38		Statistical Measures in Large Databases	L4	CO4					
39		Statistical-Based Algorithms & Distance-Based Algorithms	L3	CO4					
40		Decision Tree-Based Algorithms	L4	CO4					
41		**Tutorial 7**	L2	CO4					
42		Clustering – Introduction, Similarity & Distance Measures	L3	CO4					
43		Hierarchical & Partitional Algorithms	L3	CO4					
44		CURE & Chameleon	L3	CO4					
45		Density-Based Methods – DBSCAN, OPTICS	L3	CO4					
46		Grid-Based Methods – STING, CLIQUE	L4	CO4					
47		Model-Based – Statistical Approach, Associative Clustering	L3	CO4					
48		Large Item Sets, Basic Algorithms	L4	CO4					
49		Parallel & Distributed Algorithms	L4	CO4					
50		Neural Network Approach in Classification	L2	CO4					

51		**Tutorial 8**	L4	CO4					
52		Data Visualization – Aggregation, Historical Information	L2	CO5					
53		Query Facility, OLAP Function & Tools	L3	CO5					
54		OLAP Types – ROLAP, MOLAP, HOLAP	L2	CO5					
55		Data Mining Interface & Security	L3	CO5					
56		Tuning Data Warehouse, Testing Data Warehouse	L4	CO5					
57	**V**	**Tutorial 9**	L5	CO5					
58		Warehousing Applications & Recent Trends	L2	CO5					
59		Types of Warehousing Applications – Web Mining, Spatial & Temporal Mining	L2	CO5					
60		**Tutorial 10**	L2	CO5					
61	*	Data Mining in AI/ML	L3	CO5					

Class Test	**Syllabus**
CT-01	Class 1-Class 26
CT-02	Class 26-Class 60
PRE-AKTU	Full Syllabus

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Text Books:

T1. Data Warehousing, Data Mining & OLAP – Tata McGraw Hill Publication by Alex Berson & Stephen J. Smith

T2. Data Mining Techniques Universities Press

Faculty Sign **HOD's Sign**

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AIML)

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSONPLAN

Semester:V	Section:D	CourseCode:BCAM051	Contact Hours /week4
Course name:Cloud Computing			Noofcredits:3
Teacher's name:Mr. Pankaj Kumar			Designation:Assist.Prof.
SessionalMarks:50	EndSemesterExaminationMarks: 100		UniversityExamHours: 3

Prerequisites if any:			
Course Code	Course Name	Topic/s	Semester
BCS401	Operating System	Basics of Operating Systems,Memory Management,Networking Concepts in OS	

Content delivery by using	ChalkandBoard,PPTandVideoLectures

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	Introduction To Cloud Computing:DefinitionofCloud–Evolutionof CloudComputing–UnderlyingPrinciplesofParallelandDistributed Computing–CloudCharacteristics–ElasticityinCloud–On-demand Provisioning.	08	CO1
2	CloudEnab ling Technologies Service Oriented Architecture: RESTand SystemsofSystems–WebServices–Publish,SubscribeModel– BasicsofVirtualization–TypesofVirtualization– Implementation Levels of Virtualization – Virtualization Structures – Tools and Mechanisms – Virtualization of CPU – Memory – I/O Devices – VirtualizationSupportandDisasterRecovery.	08	CO2
3	Cloud Architecture, Services And Storage:Layered Cloud Architecture Design–NISTCloudComputingReferenceArchitecture–Public, Private and Hybrid Clouds – laaS– PaaS – SaaS – Architectural DesignChallenges–CloudStorage–Storage-as-a-Service– AdvantagesofCloudStorage–CloudStorageProviders–S3.	08	CO3
4	Resource Management And Security In Cloud: InterCloudResource Management–ResourceProvisioningandResourceProvisioning Methods – Global Exchange of Cloud Resources – Security Overview – Cloud Security Challenges – Software-as-a-Service Security – Security Governance–VirtualMachineSecurity–IAM–SecurityStandards.	08	CO4
5	Cloud Technologies And Advancements ■ adoop: MapReduce– VirtualBox—GoogleAppEngine–ProgrammingEnvironmentfor	08	CO5

	GoogleAppEngine—OpenStack–Federationinthe Cloud–FourLevelsofFederation–FederatedServicesand Applications–FutureofFederation.		

COURSE OUTCOMES: AttheendoftheCourse,theStudentwillbeableto:

CO1	Articulatethemainconcepts,keytechnologies,strengthsandlimitationsofcloudcomputing
CO2	Learnthekeyandenablingtechnologiesthathelpinthedevelopmentofcloud.
CO3	Develop the ability to understand and use the architecture of compute and storage cloud, serviceanddeliverymodels.
CO4	Explainthecoreissuesofcloudcomputingsuchasresourcemanagementandsecurity
CO5	Toappreciatetheemergenceofcloudasthenextgenerationcomputingparadigm.

Mapping of CO v/s PO:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	-	-	-	-	-	-	-	1
CO2	2	2	1	-	-	-	-	-	-	-	-	1
CO3	2	2	1	-	-	-	-	-	-	-	-	1
CO4	2	2	1	-	-	-	-	-	-	-	-	1
CO5	2	2	1	-	-	-	-	-	-	-	-	1
Average	2	2	1	-	-	-	-	-	-	-	-	1

CO	PSO1	PSO2	PSO3
CO1	2	1	-
CO2	2	1	-
CO3	2	1	-
CO4	2	1	-
CO5	2	1	-
Average	2	1	-

Correlation levels: 1-Slight (Low) 2-Moderate (Medium) 3-Substantial (High)

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AIML)

ACADEMIC YEAR 2025-26 (ODD Semester)

Gap in the syllabus	NA

Topics to be covered beyond syllabus	VirtualizationReferenceModel

LESSON PLAN

SHEDULED						CONDUCTED			
Lecture #	Module#	Topics	*RBT Levels	COMAPPING	Date	Topic	Date	No. Of Students	Faculty sign.
1	I	CloudComputing	L2	CO1					
2		TypesofCloud&Characteristicsof CloudComputing	L2	CO1					
3		Advantage &Disadvantage of Cloud Computing	L2	CO1					
4		Evolution of Cloud Computing	L2	CO1					
5		EvolutionofCloud Computing (Contd.)	L2	CO1					
6		Tutorial1							

7		Architecture /Componentofcloud computing	L2	CO1					
8		Underlying principles of parallel&Distributed Computing	L2	CO1					
9		ElasticityinCloud,On–demand Provisioning &ApplicationofCloud Computing	L2	CO1					
10		Tutorial2							
11	II	ServiceOriented Architecture	L2	CO1					
12		ServiceOriented Architecture (Contd.)	L2	CO1					
13		Layered structure of SOA	L3	CO1					
14		Tutorial3							
15		WebServices	L3	CO2					
16		WebServices(Contd.)	L3	CO2					
17		REST(Contd.)	L3	CO2					
18		Tutorial4							

19		Publisher/Subscriber Model	L 3	CO 3					
20		Virtualization	L 3	CO 3					
21		Virtualization(Contd.)	L 3	CO 3					
22		RevisionClass1							
23		Virtualization ReferenceModel	L 3						
24		Tutorial4							
25		TypesofVirtualization	L 3	CO 2					
26		Implementation level of Virtualization	L 3	CO 2					
27		Tutorial5							
28		Implementation level of Virtualization(Contd.)		CO 2					
29		VirtualizationatCPU, Memory,I/ODevices	L 3	CO 2					
30		VirtualizationatCPU, Memory, I/O Devices (Contd.)	L 3	CO 2					
31		Virtualization support &Disasterrecovery	L 3	CO 2					
32		RevisionClass2							
33		LayeredArchitecture	L	C					

			3	O 3					
34		Layered Architecture (cont.)	L 3	C O 3					
35		PublicPrivate&Hybrid Cloud	L 3	C O 3					
36		IaaS,PaaS,SaaS	L 3	C O 3					
37		**RevisionClass3**							
38		**Tutorial6**	L 2						
39		Architecturaldesign Challenges	L 2	C O 3					
40	III	Architecturaldesign Challenges(cont.)	L 3	C O 3					
41		**RevisionClass 4**							
42		StorageAsaService	L 3	C O 3					
43		Advantage of Cloud Storage and its Providers	L 3	C O 3					
44		**Tutorial7**							
45		InterCloudResource Management	L 4	C O 4					
46		ResourceProvising&its Methods	L 4	C O 4					

47	IV	ResourceProvising&its Methods (cont.)	L 4	CO 4					
48		Globalexchangeof CloudResources	L 4	CO 4					
49		**Tutorial 8**							
50		Globalexchangeof CloudResources (cont.)	L 4	CO 4					
51		CloudSecurity Overview&Challenges	L 4	CO 4					
52		Software as a security Services&Security governance	L 4	CO 4					
53		**Tutorial 9**							
54		Virtual Machine Security	L 4	CO 4					
55		IAMSecurity Standards	L 4	CO 4					
56	V	Hadoop,MapReduce, Virtual Box		CO 5					
57		GoogleAppEngine&P rogramming Environment		CO 5					
58		OpenStack,Cloud Federation		CO 5					
59		Four Level of Federation, Application &FutureofFederation		CO 5					
60		**Tutorial Class10**							

*Revised Bloom's Taxonomy (RBT) Levels:
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

References:

Text books :(As per University / Board syllabus)

T1. RajkumarBuyya,ChristianVecchiola,S.ThamaraiSelvi,—MasteringCloudComputing,Tata Mcgraw Hill,2013.

T2.AshishBhatnagar& Shailza Sharma ,"Cloud Computing",Katson Publication

Faculty Sign

HOD's Sign

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CSE/IT/AIML/DS/ECE/CE/ME

ACADEMIC YEAR 2025-26 (ODD Semester)

LESSON PLAN DETAILS

Semester: V	Section: A	Course Code: BNC 502	Contact Hours /week**: 1**
Course Name: Essence of Indian Traditional Knowledge			# of credits: -
Faculty name: Dr. Rakesh Kumar Tiwari			Designation: Assistant Professor
Sessional Marks: 50		End Semester Examination Marks:100	University Exam Hours: 3

Prerequisites if any: -

Content delivery methods:	By Face to face delivery, Presentation and e-content

COURSE SYLLABUS (as prescribed by University / Board)

Module No	UNIT Contents	Hours	COs
1	**Module 1- Society State and Polity in India** State in Ancient India: Evolutionary Theory, Force Theory, Mystical Theory Contract Theory, Stages of State Formation in Ancient India, Kingship , Council of Ministers Administration Political Ideals in Ancient India Conditions' of the Welfare of Societies, The Seven Limbs of the State, Society in Ancient India, Purusārtha, Varnāshrama System, Āshrama or the Stages of Life, Marriage, Understanding Gender as a social category, The representation of Women in Historical traditions, Challenges faced by Women. Four-class Classification, Slavery.	**4**	**CO1**
2	**Module 2- Indian Literature, Culture Tradition, and Practices** Evolution of script and languages in India: Harappan Script and Brahmi Script. The Vedas, the Upanishads, the Ramayana and the Mahabharata, Puranas, Buddhist And Jain Literature in Pali,Prakrit And Sanskrit, Kautilya's Arthashastra, Famous Sanskrit Authors, Telugu Literature, Kannada Literature,Malayalam Literature ,Sangama Literature Northern Indian Languages & Literature, Persian And Urdu ,Hindi Literature	**4**	**CO2**

3	**Module 3- Indian Religion, Philosophy, and Practices** Pre-Vedic and Vedic Religion, Buddhism, Jainism, Six System Indian Philosophy, Shankaracharya, Various Philosophical Doctrines , Other Heterodox Sects, Bhakti Movement, Sufi movement, Socio religious reform movement of 19th century, Modern religious practices.	**4**	**CO3**
4	**Module 4-Science, Management and Indian Knowledge System** Astronomy in India, Chemistry in India, Mathematics in India, Physics in India, Agriculture in India, Medicine in India ,Metallurgy in India, Geography, Biology, Harappan Technologies, Water Management in India, Textile Technology in India ,Writing Technology in India Pyrotechnics in India Trade in Ancient India/,India's Dominance up to Pre-colonial Times	**4**	**CO4**
5	**Module 5- Cultural Heritage and Performing Arts** Indian Architect, Engineering and Architecture in Ancient India, Sculptures, Seals, coins, Pottery, Puppetry, Dance, Music, Theatre, drama, Painting, Martial Arts Traditions, Fairs and Festivals, Current developments in Arts and Cultural, Indian's Cultural Contribution to the World. Indian Cinema	**3**	**CO5**

COURSE OUTCOMES: At the end of the Course, the Student will be able to:

CO1	Explain society, state and polity in India in traditional and modern context.
CO2	Describe essence of Indian Literature, Culture, Tradition and Practices.
CO3	Visualize and explain the root of Indian Religion, Philosophy and Practices.
CO4	Describe Science, Management and Indian Knowledge System.
CO5	Explain Cultural Heritage of India and root of Performing Arts.

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CSE/IT/AIML/DS/ECE/CE/ME

ACADEMIC YEAR 2025-26 (ODD Semester)

Mapping of CO v/s PO:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1						2	1	2	-	-	-	2
CO2						2	1	2	-	-	-	2
CO3						2	1	1	-	-	-	2
CO4						2	2	1	-	-	-	2
CO5						2	1	1	-	-	-	2
Average						2.00	1.00	2.0	-	-	-	2.00

Mapping of CO v/s PSO:

	PSO1	PSO2	PSO3
CO1	-	-	1
CO2	-	-	1
CO3	-	-	1
CO4	-	-	1
CO5	-	-	1
Average	-	-	1.00

Correlation levels: **1-Slight (Low)** **2-Moderate (Medium)** **3-Substantial (High)**

Topics to be covered beyond syllabus	-

LESSON PLAN

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CSE/IT/AIML/DS/ECE/CE/ME

ACADEMIC YEAR 2025-26 (ODD Semester)

Lecture	Module	Scheduled				Conducted			
		Topic	*RBT Levels	C O Mapping	Date	Topic	Date	No. Of Students	Faculty Sign
1	I	State in Ancient India: Evolutionary Theory, Force Theory, Mystical Theory Contract Theory, Stages of State Formation in Ancient India, Kingship , Council of Ministers Administration	L2	CO1					
2		Political Ideals in Ancient India Conditions' of the Welfare of Societies, The Seven Limbs of the State	L2	CO1					
3		Society in Ancient India, Purusārtha, Varnāshrama System, Āshrama or the Stages of Life	L2	CO1					
4		Marriage, Understanding Gender as a social category, The representation of Women in Historical traditions, Challenges faced by Women. Four-class Classification, Slavery.	L2	CO1					
5		State in Ancient India: Evolutionary Theory, Force Theory, Mystical Theory Contract Theory, Stages of State Formation in Ancient	L2	CO1					

		India, Kingship , Council of Ministers Administration							
6	II	Evolution of script and languages in India: Harappan Script and Brahmi Script. The Vedas, the Upanishads, the Ramayana and the Mahabharata, Puranas							
7		Buddhist And Jain Literature in Pali,Prakrit And Sanskrit							
8		Kautilya's Arthashastra, Famous Sanskrit Authors							
9		Telugu Literature, Kannada Literature,Malayalam Literature ,Sangama Literature Northern Indian Languages & Literature, Persian And Urdu ,Hindi Literature							
10	**III**	Pre-Vedic and Vedic Religion, Buddhism, Jainism	L2	CO3					
11		Six System Indian Philosophy Shankaracharya	L2	CO3					
12		Various Philosophical Doctrines , Other Heterodox Sects, Bhakti Movement, Sufi	L2	CO3					

		movement							
13		Socio religious reform movement of 19th century	L2	CO3					
14		Modern religious practices.	L2	CO3					
15	IV	Astronomy in India, Chemistry in India, Mathematics in India, Physics in India, Agriculture in India .	L2	CO4					
16		Medicine in India, Metallurgy in India, Geography, Biology.	L2	CO4					
17		Harappan Technologies, Water Management in India, Textile Technology in India	L2	CO4					
18		Writing Technology in India Pyrotechnics in India Trade in Ancient India/, India's Dominance up to Pre-colonial Times.	L2	CO4					
20	V	Indian Architect, Engineering and Architecture in Ancient India	L2	CO5					
21		Sculptures, Seals, coins, Pottery, Puppetry, Dance, Music, Theatre	L2	CO5					
22		Drama, Painting, Martial Arts Traditions, Fairs and Festivals.	L2	CO5					

23		Current developments in Arts and Cultural, Indian's Cultural Contribution to the World. Indian Cinema.	L2	CO5					

Class Test	**Syllabus**
CT-01	Class 1-Class 05
CT-02	Class 6-Class 10
PRE-AKTU	Full Syllabus

***Revised Bloom's Taxonomy (RBT) Levels:**
L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analysing; L5 – Evaluating; L6 - Creating

Text Books:

Text Books:

1. V. Sivaramakrishna (Ed.), Cultural Heritage of India-Course Material, Bharatiya Vidya Bhavan, Mumbai, 5th Edition, 2014

2. S. Baliyan, Indian Art and Culture, Oxford University Press, India

3. Swami Jitatmanand, Modern Physics and Vedant, Bharatiya Vidya Bhavan

BUDDHA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CSE/IT/AIML/DS/ECE/CE/ME

ACADEMIC YEAR 2025-26 (ODD Semester)

Faculty Sign **HOD's Sign**

SKILL DEVELOPMENT CELL

Lesson Plan(Jul – Dec 2025)

Course - PPC (English)
College - BIT
Department- AIML
Class/Section- 3rd Yr
Faculty - Mr. Santosh Kr. Tripathi

Lecture#	Scheduled Topics	Conducted			
		Date	No Of Students	Faculty Sign	Topic
1	Introduction: Need for Vocabulary				
2	Basic Grammar: Tense				
3	Basic Grammar: Tense				
4	Application of Modal Verbs				
5	Application of Modal Verbs				
6	Application of Pronoun				
7	Application of Pronoun				
8	Daily Usage Vocabulary				

9	Basic Reasoning				
10	Basic Reasoning				
11	Application of Articles				
12	Problems on Ages				
13	**Problems on Ages**				
14	Mock Test 1				
15	**Raito & Proportion**				
16	Ratio & Proportion				
17	Daily Usage Vocabulary				
18	**Mock Test**				

Faculty/ Trainer Sign:

SKILL DEVELOPMENT CELL

Lesson Plan

Course-TechEdge (MERN Stack)
College- BIT
Department-CSE/IT/CS/AIML/DS
Class/Section-5th Semester
Faculty- Mr. Rishabh Srivastava

Lecture#	Scheduled Topics	Conducted			
		Date	No Of Students	Faculty Sign	Topic
JavaScript Basic					
1	**JavaScript Basics** • Overview of JavaScript and its importance in web development. • Variables, Data Types, and Operators. • Control Structures (if-else, switch-case				
2	• Loops (for, while, do-while). • Functions and Scope.				
3	**Advanced JavaScript Concepts** • Arrays and Objects. • ES6+ Features: Let, Const, Arrow Functions, Template Literals.				
4	• Destructuring and Spread/Rest Operators. • Promises, Async/Await.				
5	**DOM Manipulation and Event Handling** • Selecting and manipulating DOM elements. • Event Listeners and Event Bubbling. • Form validation.				

Node JS					
6	**Introduction to Node.js** • What is Node.js? Setting up Node.js. • Using npm and package.json.				
7	• Creating your first Node.js application. • Understanding the Event Loop.				
8	**File System and Modules in Node.js (2 Hours)** • Working with the File System module. • Importing and Exporting Modules. • Built-in and third-party modules.				
9	**Introduction to Express.js** • Setting up an Express.js application. • Middleware and Routing. • Handling GET, POST, PUT, DELETE requests.				
10	**Advanced Express.js** • Error handling in Express. • Using templating engines (e.g., EJS or Handlebars). • Serving static files.				
MongoDB					
11	**Introduction to MongoDB** • Understanding NoSQL databases. • Setting up MongoDB. • CRUD operations using MongoDB shell. • Data modeling basics.				
12	**MongoDB with Mongoose** • Introduction to Mongoose. • Defining schemas and models. • Querying, Updating, and Deleting documents. • Validation and Middleware in Mongoose.				
13	**Building a REST API** • Designing RESTful endpoints. • Connecting Express.js with MongoDB. • Implementing CRUD operations in a REST API.				

React JS					
14	**Introduction to React.js** • Overview of React and SPA (Single Page Applications). • Setting up a React app using Create React App. • Understanding JSX and Components.				
15	**React State and Props** • Managing state with useState. • Passing data with props. • Component lifecycle and hooks.				
16	**React Forms and Events** • Controlled vs Uncontrolled components. • Handling forms and events. • Lifting state up.				
17	**React Router** • Setting up React Router. • Nested routes and route parameters. • Redirects and navigation.				
18	**React Context and State Management (2 Hours)** • Using React Context API. • Introduction to third-party state management libraries (e.g., Redux or Zustand).				

Faculty/ Trainer Sign: