Lesson Plan

Name of the Faculty:	**Er. Nidhi Seth, Er. Kamal Gupta**
Discipline:	**B.Tech CSE**
Semester:	**3rd**
Subject:	**Data Structure and Algorithms (B23-CSE-209)**
Work Load (Lecture/Practical) per week (In hours):	**Lecture - 3**

Sl No.	Lecture No.	Theory Topic (Including Assignment/Test/Quiz)	Pedagogy (PPT & Chalk-Board and Board/Video Recording /Activity/Case Study)
1	L1	Data Types, Built in and User Defined Data Structures, Applications of Data Structure	Chalk-Board
2	L2	Algorithm Analysis, Worst, Best and Average Case Analysis	PPT & Chalk-Board
3	L3	Notations of Space and Time Complexity, Arrays, One Dimensional Arrays	PPT & Chalk-Board
4	L4	Two Dimensional Arrays and Multi-Dimensional Arrays, Sparse Matrices, Storage Class	PPT & Chalk-Board
5	L5	Basics of Recursion, Searching from array using Linear Search Algorithm	PPT & Chalk-Board
6	L6	Binary Searching Algorithm	PPT & Chalk-Board
7	L7	Sorting of array using Selection sort	PPT & Chalk-Board
8	L8	Sorting of array using Insertion sort,	PPT & Chalk-Board
9	L9	Bubble, Radix Sort Algorithm	PPT & Chalk-Board
10		**Class Test Unit 1**	Offline
11	L11	**Unit 2-**Stacks: Definition, Implementation of Stacks and Its Operations (Push, Pop)	PPT & Chalk-Board
12	L12	Evaluation of Infix, prefix and Postfix Expression	PPT & Chalk-Board
13	L13	Inter-conversion of Infix Expression, Prefix Expression	PPT & Chalk-Board
14	L14	Inter-conversion of Infix Expression,Post-Fix Expression	PPT & Chalk-Board
15	L15	Implementation of Merge Sort	PPT & Chalk-Board
16	L16	Quick Sort Algorithm and Stack's Application.	PPT & Chalk-Board
17	L17	Queues: Definition, Sequential Implementation of Linear Queues and Its Operations	PPT & Chalk-Board
18	L18	Circular Queue and Its Implementation	PPT & Chalk-Board
19	L19	Priority Queues and Its Implementation, Applications of queues	PPT
20		**Assignment-1**	Offline

21	L21	**Unit 3-** Linked Lists: Dynamic Implementations, Need of Dynamic Data Structures	PPT & Chalk-Board
22	L22	Single Link List and Its Dynamic Implementation	PPT & Chalk-Board
23	L23	Traversing, Insertion, Operations on Single Link Lists.	PPT
24	L24	Deletion Operations on Single Link Lists	PPT & Chalk-Board
25	L25	Comparison between Static and Dynamic.Circular Link List and Its Dynamic Implementation	PPT & Chalk-Board
26	L26	Traversing, Insertion, Operations on Circular Link Lists	PPT & Chalk-Board
27	L27	Deletion Operations on Circular Link Lists	PPT & Chalk-Board
28	L28	Doubly Link List and Its Dynamic Implementation	PPT
29	L29	Traversing, Insertion, Operations on Doubly Link Lists	PPT & Chalk-Board/Example
30	L30	Deletion Operations on Circular Link Lists, Dynamic Implementation of Stacks and Queues	PPT
31		**Query Session Unit-3**	Offline
32		**Class Test Unit 3**	Offline
33	L33	**Unit-4** Definition, Basic Terminology of Binary Tree, External and Internal Nodes, Static and Dynamic Implementation of a Binary Tree, Primitive Operations on Binary Trees	PPT & Chalk-Board
34	L34	Binary Tree Traversals: Pre-Order, In-Order	PPT & Chalk-Board/Example
35	L35	Post-Order Traversals	PPT & Chalk-Board/Example
36	L36	Representation of Infix, Post-Fix and Prefix Expressions using Trees.	PPT & Chalk-Board/Example
37	L37	Introduction to B+ trees, AVL Trees	PPT & Chalk-Board
38	L38	Introduction to Threaded Binary trees, Balanced Multi-way search trees	PPT & Chalk-Board
39	L39	Implementation of Heap Sort Algorithm.	PPT
40	L40	Basic Terminology, Definition of Undirected and Directed Graphs, Memory Representation of Graphs	PPT
41	L41	Graph Traversals Algorithms: Breadth First and Depth First.	PPT & Chalk-Board/Example

Lesson Plan

Name of the Faculty:	**Dr. L.S. Reen, Ms. Reena Sharma**
Discipline:	**B.Tech. CSE**
Semester:	**3rd Semester (2025-26)**
Subject:	**Probability & Statistics (B24-BSC-203)**
Work Load (Lecture/Practical) per week (In hours):	**Lecture-3**

S. No	Lecture No.	Theory	
		Topic (including Assignment/Test/Quiz)	**Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)**
1.	L1.	Probability: Introduction	PPT and White Board
2.	L2.	Additive Law of Probability	PPT and White Board
3.	L3.	Conditional Probability	PPT and White Board
4.	L4.	Independent Events.	PPT and White Board
5.	L5.	Bayes' Theorem	PPT and White Board
6.	L6.	Random Variables: Discrete Random Variables	PPT and White Board
7.	L7.	Probability Distribution	PPT and White Board
8.	L8.	Probability Mass Function and Distribution Function	PPT and White Board
9.	L9.	Expectation, Moments	PPT and White Board
10.	L10.	Variance And Standard Deviation of Discrete Random Variables. (Assignment I)	PPT and White Board
11.		**Test-I**	On Paper
12.	L11.	Continuous Random Variables	PPT and White Board
13.	L12.	Probability Distribution	PPT and White Board
14.	L13.	Probability Density Function	PPT and White Board
15.	L14.	Probability Distribution Function	PPT and White Board
16.	L15.	Expectation	PPT and White Board
17.	L16.	Moments	PPT and White Board
18.	L17.	Variance And Standard Deviation of Continuous Random Variables	PPT and White Board
19.	L18.	Binomial Probability Distributions and Evaluation of Statistical Parameters	PPT and White Board
20.	L19.	Poisson Probability Distributions and Evaluation of Statistical Parameters	PPT and White Board
21.	L20.	Normal Probability Distributions and Evaluation of Statistical Parameters (Assignment II)	PPT and White Board

22.		**TEST- II**	On Paper
23.	L21.	Measures Of Central Tendency: Mean, Median,	PPT and White Board
24.	L22.	Measures Of Central Tendency: Quartiles, Mode	PPT and White Board
25.	L23.	Geometric Mean	PPT and White Board
26.	L24.	Harmonic Mean	PPT and White Board
27.	L25.	Measures of Dispersion: Range, Quartile deviation	PPT and White Board
28.	L26.	Mean Deviation, Standard Deviation	PPT and White Board
29.	L27.	Coefficient Of Variation	PPT and White Board
30.	L28.	Moments	PPT and White Board
31.	L29.	Skewness And Kurtosis (Assignment III)	PPT and White Board
32.	L30.	Correlation, Coefficient of correlation	PPT and White Board
33.	L31.	Methods of calculations	PPT and White Board
34.	L32.	Methods of calculations	PPT and White Board
35	L33.	Lines of regression	PPT and White Board
36	L34.	Lines of regression	PPT and White Board
37	L35.	Rank correlation	PPT and White Board
38	L36.	Rank correlation (Assignment IV)	PPT and White Board
		TEST- III	On Paper

Lesson Plan

Name of the Faculty:	**Dr. Navdeep Kumar Chopra, Dr. Gaganpreet, Er. Ritu Rajal**
Discipline:	**B.Tech CSE**
Semester:	**3rd Semester**
Subject:	**Computer Organization & Architecture**
Subject Code:	**B23-CSE-203**
Work Load per week (In hours):	**3 Hours**

Sl No.	Lecture No.	Theory Topic (Including Assignment/Test/Quiz)	Pedagogy (PPT & Chalk-Board and Board/Video Recording /Activity/Case Study)
1	L1	**Unit 1 –** Data Representation & Computer Arithmetic	White Board
2	L2	Introduction to Computer Systems, Organization and Architecture	White Board
3	L3	Von Neumann Architecture, evolution and computer generations	PPT
4	L4	fixed point, Floating-point and Decimal arithmetic operations	PPT
5	L5	Digital arithmetic algorithms for Addition, Subtraction	PPT & White Board
6	L6	Multiplication using Booth's algorithm	PPT & White Board
7	L7	Multiprocessors and Multicomputer	PPT & White Board
8	L8	MIPS, MFLOPS	PPT & White Board
9	L9	Memory Organization: Memory Hierarchy, Types of Memory	PPT & White Board
10	L10	TLB	PPT & White Board
11	L11	**Unit 2** – Basic Computer organization and Design	PPT
12	L12	General register organization, stack organization and common bus system	PPT & White Board
13	L13	Computer instructions, timing and control	PPT & White Board
14	L14	Input, output and Interrupt: Interrupt cycle	PPT & White Board
15	L15	Design drivers: common case	PPT & White Board
16	L16	Amdahl's law	PPT & White Board
17	L17	Micro programmed Control organization, Control Memory	PPT & White Board
18	L18	Address sequencing, micro instruction format	PPT & White Board
19	L19	Horizontal Vs Vertical micro-programming, design of control Unit	PPT & White Board
20	L20	Micro program sequencer, Hardwired v/s Micro-programmed	PPT & White Board
21	L21	CISC and RISC: features and comparison.	PPT & White Board
22		**Sessional-1 & Assignment-1**	
23	L22	**Unit 3** – Instruction set Architecture	PPT
24	L23	Instruction codes, instruction formats (Zero, One, Two and Three Address Instruction)	PPT & White Board
25	L24	Instruction cycle, reference instructions	PPT & White Board
26	L25	Memory reference instructions	PPT & White Board
27	L26	Various addressing modes	PPT
28	L27	Pipeline and vector Processing, Parallel Processing	PPT & White Board
29	L28	Flynn's Taxonomy	PPT & White Board
30	L29	Pipelining, Instruction Pipeline	PPT & White Board
31	L30	Basics of vector processing and Array Processors	PPT

32		**Sessional- 2 & Assignment-2**	
33	L31	**Unit 4** – Input-output organization	PPT
34	L32	I/O interface. I/O Bus and interface modules, I/O versus Memory Bus	PPT & White Board
35	L33	Asynchronous data transfer: Strobe control, Handshaking, Asynchronous serial transfer	PPT & White Board
36	L34	Modes of Transfer: Programmed I/O, Interrupt driven I/O, Priority interrupt;	PPT & White Board
37	L35	Daisy chaining, Parallel Priority interrupt	PPT & White Board
38	L36	Direct memory Access, DMA controller and transfer.	PPT & White Board
39	L37	Input output Processor, CPU-IOP communication, Serial communication	PPT & White Board
40		**Sessional- 3**	

Lesson Plan

Name of the Faculty:	**Er. Mukesh Kumar, Dr. Monika**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**IT Workshop (Python) (B23-CSE-207)**
Work Load (Lecture/Practical) per week (In hours):	**Lecture-3**

S.No	Lecture No.	Theory	
		Topic (Including Assignment/Test/Quiz)	**Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)**
1	L1	Introduction to Python, Features of Python	PPT
2	L2	Execution modes: interactive mode and script mode	PPT
3	L3	Python character set, use of indentation,	Chalk and board
4	L4	Python tokens (keyword, identifier, literal, operator, punctuator)	PPT
5	L5	Python tokens (keyword, identifier, literal, operator, and punctuator) Continue...	PPT
6	L6	variables, use of comments	Chalk and Board
7	L7	Knowledge of data types: Number (Integer, Floating point, Complex)	PPT
8	L8	Knowledge of data types: Number (Integer, Floating point, Complex) Continue...	PPT
9	L9	Errors: syntax errors, logical errors, and run-time errors	Chalk and Board
10	L10	Errors: syntax errors, logical errors, and run-time errors Continue…	Chalk and Board
11	L11	Revision of UNIT-1	
12		**Assignment Unit 1**	
13	L12	Expressions: Statement, Type conversion, and input/output	Chalk and Board
14	L13	Precedence of Operators	Chalk and Board
15	L14	Arithmetic operators, relational operators, logical operators	Chalk and Board
16	L15	Arithmetic operators, relational operators, logical operators Continue…	PPT
17	L16	Assignment operators, augmented assignment operators	PPT
18	L17	Identity operators (is, is not)	PPT
19	L18	Expression, evaluation of an expression	PPT
20	L19	Type-conversion	PPT
21	L20	Flow of Control, Conditional statements, Iterative Statements	PPT
22	L21	Strings: Introduction, string operations (concatenation, repetition, membership and slicing)	Chalk and Board
23	L23	Traversing a string using loops	PPT

24	L24	built-in functions/methods–len(), capitalize(), title(), lower(),	PPT
25	L25	Upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(),	PPT
26	L26	islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split()	PPT
27	L27	Array: Access the Elements of an Array, Length of an Array, Adding Array Elements,	Chalk and Board
28	L28	Removing Array Elements, Adds and remove the element at the specified position.	PPT
29	L29	Lists, Tuples, Dictionary: introduction, indexing, list operations, traversing a list using loops, built-in functions/methods–len(), list(), append()	Chalk and Board
29	L30	extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum().	Chalk and Board
30		**Assignment from Unit 2**	
31	L31	Introduction to Python modules: Importing module using 'import ' and using from statement	PPT
32	L32	importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan())	PPT
33	L33	random module (random(), randint(), randrange())	Chalk and Board
34	L34	statistics module (mean(), median(), mode())	PPT
35	L35	Functions and its types (Built-in Functions, Functions defined in Module, User Defined Functions)	PPT
36	L36	Arguments, default parameters, positional parameters, Function Returning Value(s), Recursion, Scope of a Variable	Chalk and Board
37	L37	Files: Introduction to files, types of files (Text file, Binary file, CSV file),Text file: opening a text file	PPT
38	L38	file open modes (r, r+, w, w+, a, a+ etc), closing a text file, opening a file using with clause	PPT
39	L39	writing/appending data to a text file using write() and writelines()	PPT
40	L40	reading from a text file using read(), readline() and readlines	Chalk and Board

Lesson Plan

Name of the Faculty:	**Er. Surbhi Bajaj**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**Essence of Indian Traditional Knowledge**
Work Load (Lecture/Practical) per week (In hours):	**Lecture-2**

S.No	Lecture No.	Theory	
		Topic (Including Assignment/Test/Quiz)	**Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)**
1	L1	Introduction to Indian Traditional knowledge	PPT
2	L2	Define traditional knowledge, importance, kinds of traditional knowledge.	PPT+ Chalk and Board
3	L3	Philosophical system	Chalk and Board
4	L4	Basics of Rajyoga and Karamyoga,	PPT
5	L5	Benefits of Rajyogaand Karamyoga	PPT+ Chalk and Board
6	L6	Introduction Holistic Health	Chalk and Board
7	L7	Holistic Health using Indian Knowledge System	PPT
8	L8	Basic principles of natural life style,	PPT
9	L9	benefits through five elements	PPT+ Chalk and Board
10	L10	Healing through food, Chakras and Mudras.	PPT+ Chalk and Board
11	L11	Physical, Mental, health using traditional knowledge	PPT+ Chalk and Board
12	L12	Emotional and Spiritual health using traditional knowledge	PPT+ Chalk and Board
13	L13	Positivity: Traditional approaches	Chalk and Board
14	L14	Happiness: objective and subjective measures of wellbeing,	Chalk and Board
15	L15	life satisfaction	Chalk and Board
16	L16	Resilience, define & its importance.	PPT+ Chalk and Board
17	L17	Self-regulation and self-control,	PPT+ Chalk and Board
18	L18	optimism, self-esteem.	PPT+ Chalk and Board
19	L19	Managing thoughts and Emotions with the help of Rajyoga	PPT+ Chalk and Board
20	L20	Achieving Powers for Self-Mastery.	PPT+ Chalk and Board
21	L21	Achieving Consciousness through Indian knowledge System	PPT
22	L22	Emotional intelligence,	Chalk and Board
23	L23	Indian approach to Psychology	PPT+ Chalk and Board
24	L24	Consciousness; Level	PPT+ Chalk and Board
25	L25	body-mind relationship,	PPT+ Chalk and Board

26	L26	Self-motivation,	PPT+ Chalk and Board
27	L27	Self and Identity in modern Psychology	Chalk and Board
28	L28	Self and Identity in modern Psychology and Indian thought	PPT+ Chalk and Board
29	L29	Spirituality and wellbeing.	PPT+ Chalk and Board
30	L30	modern Western psychology	PPT+ Chalk and Board

Lesson Plan

Name of the Faculty:	**Dr. Gaurav Sharma, Er. Pinki, Er.Sonia Sharma**
Discipline:	**B.Tech CSE**
Semester:	**3rd**
Subject:	**Object Oriented Programming(PC-CS-203A)**
Work Load (Lecture/Practical) per week (in hours):	**Lecture - 3**

Sr No.	**Lecture No.**	**Theory**	
		Topic(Including Assignment/Test/Quiz)	**Pedagogy (PPT& Chalk-Board and Board/Video Recording /Activity/Case Study)**
1	L1	**Unit 1 -** Introduction to C++, C++ Standard Library	Chalk-Board
2	L2	Illustrative Simple C++ Programs. Header Files, Namespaces.	Chalk-Board
3	L3	Application of object-oriented programming. Object Oriented Concepts	PPT
4	L4	Introduction to Objects and Object-Oriented Programming	PPT
5	L5	Encapsulation, Polymorphism, Overloading, Inheritance, Abstract Classes	PPT & Chalk-Board
6	L6	Accessifier (public/ protected/ private), Class Scope and Accessing Class Members	PPT & Chalk-Board
7	L7	Controlling Access Function, Constant, Class Member, Structure and Class	PPT & Chalk-Board
8		**Class Test – Unit-1**	Offline
9	L8	**Unit 2** – Friend Function and Friend Classes	PPT
10	L9	This Pointer, Dynamic Memory Allocation	PPT & Chalk-Board
11	L10	Dynamic Memory Allocation and Deallocation (New and Delete)	PPT & Chalk-Board
12	L11	Static Class Members	PPT & Chalk-Board
13	L12	Constructors, parameter Constructors	PPT & Chalk-Board
14	L13	Copy Constructors, Deconstructors	PPT & Chalk-Board
15	L14	Introduction of inheritance	PPT & Chalk-Board
16	L15	Types of Inheritance	PPT & Chalk-Board
17	L16	Overriding Base Class Members in a Derived Class	PPT & Chalk-Board
18	L17	Public, Protected and Private Inheritance	PPT & Chalk-Board
19	L18	Effect of Constructors and Deconstructors of Base Class in Derived Classes.	PPT & Chalk-Board
20	L19	Effect of Constructors and Deconstructors of Base Class in Derived Classes.	PPT & Chalk-Board
21	L20	Effect of Constructors and Deconstructors of Base Class in Derived Classes.	PPT & Chalk-Board
22		**Query Session Unit-2**	Offline
23		**Assignment -1**	Offline
24	L21	**Unit 3** –Polymorphism, Pointer to Derived class	PPT
25	L22	Virtual Functions	PPT & Chalk-Board

26	L23	Pure Virtual Function, Abstract Base Classes	PPT & Chalk-Board
27	L24	Static and Dynamic Binding	PPT & Chalk-Board
28	L25	Virtual Deconstructors.	PPT & Chalk-Board
29	L26	Fundamentals of Operator Overloading, Rules for Operators Overloading	PPT
30	L27	Implementation of Operator Overloading Like <<,>>	PPT & Chalk-Board/Example
31	L28	Unary Operators	PPT
32	L29	Binary Operators	PPT/Case Study
33	L30	Some other Operators	PPT
34		**Query Session Unit-3**	Offline
35		**Class Test Unit 3**	Offline
36	L31	**Unit 4** – Text Streams and binary stream, Sequential and Random Access File	PPT/Case Study
37	L32	Stream Input/ Output Classes, Stream Manipulators.	PPT
38	L33	Basics of C++ Exception Handling, Exception specifications	PPT & Chalk-Board
39	L34	Try, Throw, Catch, multiple catch, Re-throwing an Exception	PPT & Chalk-Board
40	L35	Templates: Function Templates	PPT
41	L36	Overloading Template Functions Class Template	PPT
42	L37	Class Templates and Non-Type Template arguments.	PPT
43		**Query Session Unit-4**	Offline
44		**Assignments -2**	Offline