Lesson Plan

Name of the Faculty:	**Dr. Bhawna Sharma/ Er. Pinki/ Er. Savedna**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**Principles of Programming Languages(ES-227A)**
Work Load (Lecture/Practical) per week (In hours):	**Lecture-3**

S.No	Lectures No.	Topics Topic (Including Assignment/Test/Quiz)	Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)
1.	**L1**	A brief History, Characteristics of good programming language	**Chalk and Board**
2.	**L2**	Programming Language translators compiler and interpreters,	**Chalk and Board**
3.	**L3**	Elementary data types –data objects, variables and constants, data types.	**Chalk and Board**
4.	**L4**	Specification and implementation of elementary data types , Declarations	**Chalk and Board**
5.	**L5**	Type checking and type conversions, assignment and initialization	**PPT**
6.	**L6**	Numeric Data types, enumerations, Booleans and characters	**Chalk and Board**
7.	**L7**	Syntax and semantics: introduction, general problem of describing syntax,	**Chalk and Board**
8.	**L8**	Formal method of describing syntax, attribute grammar dynamic semantic	**Chalk and Board**
9.	**L9**	Structured data objects and data types, specification and implementation of structured data types	**Chalk and Board**
10.	**L10**	Declaration and type checking of data structured, vector and arrays,	**Chalk and Board**
11.	**L11**	Records character strings, variable size data structures, Union	**Chalk and Board**
12.	**L12**	Pointer and programmer defined data objects	**Chalk and Board**
13.	**L13**	Sets	**Chalk and Board**
14.	**L14**	Files	**PPT**
15.		**Assignment1:** Fixed point and floating point real numbers	
16.	**L15**	Evolution of data type concept abstraction	**PPT**
17.	**L16**	Encapsulation and information hiding	**PPT**
18.	**L17**	Subprograms, type definition,	**PPT**
19.	**L18**	Abstract data types	**PPT**
20.	**L19**	Overloaded subprograms, generic subprograms	**PPT**
21.	**L20**	Implicit and explicit sequence control	**Chalk and Board**
22.	**L21**	Sequence control within expression	**Chalk and Board**
23.	**L22**	Sequence control within statement	**Chalk and Board**
24.	**L23**	Subprogram sequence control	**Chalk and Board**
25.	**L24**	Simple call return	**Chalk and Board**
26.	**L25**	Co-routines	**PPT**
27.		**Assignment2:** Recursive subprograms	
28.	**L26**	Exception and exception handlers	**PPT**
29.	**L27**	Sequence control	**PPT**
30.	**L28**	Concurrency subprogram level concurrency	**PPT**

31.	**L29**	Synchronization through semaphores	**PPT**
32.	**L30**	Monitors and message passing	**PPT**
33.	**L31**	Data control Names and referencing environment	**PPT**
34.	**L32**	Static and dynamic scope	**PPT**
35.	**L33**	Block structure	**PPT**
36.	**L34**	Shared data	**PPT**
37.	**L35**	Local data	**PPT**
38.	**L36**	Local referencing environment	**PPT**
39.	**L37**	Parameter and parameter transmission schemes	**PPT**
40.	**L38**	Major run time elements requiring storage	**PPT**
41.	**L39**	Programmer and system controlled storage management and phases,	**Chalk and Board**
42.	**L40**	Static storage management , stack based storage management	**Chalk and Board**
43.	**L41**	Heap storage management	**Chalk and Board**
44.	**L42**	Variable and fixed size elements	**PPT**
45.	**L43**	Introduction to procedural , non procedural	**PPT**
46.	**L44**	Structured, Logical , functional programming paradigm	**PPT**
47.	**L45**	Object oriented programming paradigm	**PPT**
48.		**Assignment3**: Comparison of C and C++ programming languages	

Lesson Plan

Name of the Faculty:	**Dr. Gaurav Sharma/ Er. Vikas Juneja/ Er.Sonia Sharma**
Discipline:	**B.Tech CSE**
Semester:	**4th**
Subject:	**Object Oriented Programming(PC-CS-203A)**
WorkLoad (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

Lesson Plan

Name of the Faculty:	**Dr. L.S. Reen/ Ms. Harshleen/ Ms.Partiksha**
Discipline:	**B.Tech CSE**
Semester:	**3rd**
Subject:	**Mathematics – III (BS-205 A)**
WorkLoad (Lecture/Practical)Perweek(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-I** Sequence and Series: Introduction	Marker and Board
2.	L2.	Convergence of sequence and series	Marker and Board
3.	L3.	tests for convergence Comparison tests	Marker and Board
4.	L4.	D'Alembert's Ratio test	Marker and Board
5.	L5.	Logarithmic test	Marker and Board
6.		**Cauchy root test**	**Assignment from 1st Unit**
7.	L6.	Raabe's test	Marker and Board
8.	L7.	Fourier series: Introduction Fourier-Euler Formula	Marker and Board
9.		**Dirichlet's conditions Change of intervals**	**Test from 1st unit**
10.	L8.	Fourier series for even and odd functions	Marker and Board
11.	L9.	Half-range sine and cosine series	Marker and Board
12.	L10.	**UNIT-II** First-order ordinary differential equations	Marker and Board
13.	L11.	Exact ordinary differential equations	Marker and Board
14.	L12.	linear ordinary differential equations	Marker and Board
15.	L13.	Bernoulli's equations	Marker and Board
16.		**Euler's equations**	**Assignment from 2nd unit**
17.	L14.	Equations not of first degree: equations solvable for p, equatio solvable for y,	Marker and Board
18.	L15.	equations solvable for x and Clairaut's type	Marker and Board
19.		**Differential equations of higher orders:** **Second-order linear differential equations with constant coefficients**	**Test from 2nd unit**
20.	L16.	Second-order linear differential equations with constant coefficients continued	Marker and Board
21.	L17.	method of variation of parameters	Marker and Board
22.	L18.	Cauchy and Legendre's linear differential equations.	Marker and Board
23.	L19.	Practice Session	Marker and Board
24.	L20.	**UNIT-III** Multivariable Calculus (Integration):	Marker and Board
25.	L21.	Multiple Integration: Double integrals (Cartesian),	Marker and Board
26.	L22.	Double integrals (Cartesian),	Marker and Board
27.	L23.	change of order of integration in double integrals	Marker and Board
28.		**Change of variables (Cartesian to polar)**	**Assignment form 3rd Unit**

29.	L24.	Applications: areas and volumes	Marker and Board
30.	L25.	Triple integrals (Cartesian)	Marker and Board
31.	L26.	orthogonal curvilinear coordinates	Marker and Board
32.		**orthogonal curvilinear coordinates continued**	**Test from 3rd unit**
33.	L27.	Simple applications involving cubes	Marker and Board
34.	L28.	Simple applications involving the sphere	Marker and Board
35.	L29.	Simple applications involving rectangular parallelepipeds	Marker and Board
36.	L30.	Practice Session	Marker and Board
37.	L31.	**UNIT-IV** Vector Calculus: Introduction	Marker and Board
38.	L32.	Scalar and Vector point functions	Marker and Board
39.	L33.	Gradient and their properties	Marker and Board
40.	L34.	divergence and their properties	Marker and Board
41.		**Curl and their properties,**	**Assignment from 4th unit**
42.	L35.	Directional derivative, Line integrals	Marker and Board
43.	L36.	surface integrals	Marker and Board
44.	L37.	volume integrals	Marker and Board
45.		**Theorems of Green**	**Test from 4th unit**
46.	L38.	Gauss and Stokes (without proof).	Marker and Board
47.	L39.	Practice Session	Marker and Board

Lesson Plan

Name of the Faculty:	**Er. Nisha Raheja/ Er. Rajiv/ Er. Nidhi**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**Data Structures and Algorithms (PC-CS-201A)**
WorkLoad (Lecture/Practical)Perweek(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	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	Chalk-Board
3	L3	Notations of Space and Time Complexity, Arrays, One Dimensional Arrays	PPT
4	L4	Storage Class	PPT
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
8	L8	Sorting of array using Selection sort	PPT
9	L9	Sorting of array using Insertion sort, Selection Sort	PPT & Chalk-Board
10	L10	Bubble, Radix Sort Algorithm	PPT
11	L11	Revision of Sorting and Searching.	PPT
12		**Query Session Unit-1**	Offline
13		**Class Test Unit 1**	Offline
14	L12	Stacks: Definition, Implementation of Stacks and Its Operations(Push,Pop)	PPT
15	L13	Evaluation of Infix, prefix and Postfix Expression,	PPT & Chalk-Board
16	L14	Inter-conversion of Infix Expression, Prefix and Post-Fix Expression	PPT & Chalk-Board
17	L15	----DO-----	PPT & Chalk-Board
18	L16	Implementation of Merge Sort	PPT & Chalk-Board
19	L17	Quick Sort Algorithm	PPT & Chalk-Board
20	L18	Revision of Stack and its Application.	PPT & Chalk-Board
21	L19	Queues: Definition, Sequential Implementation of Linear Queues and Its Operations	PPT & Chalk-Board

22	L20	Circular Queue and Its Implementation	PPT & Chalk-Board
23	L21	Priority Queues and Its Implementation	PPT
24	L22	Applications of queues	PPT
25	L23	Revision of Queue.	PPT
26		**Query Session Unit-2**	Offline
27		**Class Test Unit 2/Assignment 1**	Offline
28	L24	Linked Lists: Dynamic Implementations, Need of Dynamic Data Structures,	PPT & Chalk-Board
29	L25	Single Link List and Its Dynamic Implementation	PPT & Chalk-Board
30	L26	Traversing, Insertion, Operations on Single Link Lists.	PPT & Chalk-Board
31	L27	Deletion Operations on Single Link Lists.	PPT & Chalk-Board/Example
32	L28	Comparison between Static and Dynamic	PPT
33	L29	Implementation of Linked List. Dynamic Implementation of Stacks and Queues.	PPT & Chalk-Board/Example
34	L30	Circular Link Lists and Doubly Link List,	PPT
35	L31	Dynamic Implementation of Primitive Operations on Doubly Linked Lists .	PPT
36	L32	Dynamic Implementation of Primitive Operations on Circular Link List	PPT
37		**Query Session Unit-3**	Offline
38		**Class Test Unit 3/ Assignment 2**	Offline
39	L33	Trees: Definition, Basic Terminology, Binary Tree, External and Internal Nodes	PPT
40	L34	Static Implementation of a Binary Tree	PPT
41	L35	Dynamic Implementation of a Binary Tree, Primitive Operations on Binary Trees	PPT & Chalk-Board
42	L36	Binary Tree Traversals: Per-Order, InOrder	PPT & Chalk-Board
43	L37	Binary Tree Traversals: Post-Order Traversals	PPT
44	L38	Representation of Infix, Post-Fix and Prefix Expressions using Trees	PPT & Chalk-Board/Example
45	L39	Introduction to Binary Search Trees: B trees, B+ trees, AVL Trees, Threaded Binary trees	PPT & Chalk-Board/Example
46	L40	Balanced Multi-way search trees, Implementation of Heap Sort Algorithm. Graphs: Basic Terminology, Definition of Undirected & Directed Graphs,	PPT & Chalk-Board/Example
48	L41	Memory Representation of Graphs	PPT & Chalk-Board/Example
49	L42	Graph Traversals Algorithms: Breadth First and Depth First	PPT & Chalk-Board/Example
50	L43	Minimum-Spanning Trees	PPT & Chalk-Board/Example
51	L44	Warshal Algorithm	PPT & Chalk-Board/Example
52		**Query Session Unit-4**	Offline
53		**Class Test Unit 4**	Offline

Lesson Plan

Name of the Faculty:	**Dr. Vandna Rani**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**Business Intelligence and Entrepreneurship (HM-902A)**
Work Load (Lecture/Practical) per week (In hours):	**Lecture-3**

Sr. No.	Lecture No.	Topic (IncludingAssignment/Test/Quiz/Activity)	Pedagogy(PPT/Video Lecture/Chalk/Case-Study etc.)
1.	L1	Concepts & Definitions of Entrepreneurship	PPT & Video
2.	L2	Entrepreneurship & Economic Development	PPT
3.	L3	Classification of Entrepreneurs	PPT
4.	L4	Types of Entrepreneurs	PPT & Chalk
5.	L5	Types of Entrepreneurship	PPT & Chalk
6.	L6	Entrepreneurial Competencies	PPT & Chalk
7.	L7	Factors affecting Entrepreneurial Growth (economic &Non Economic)	Lecture
8.	L8	EDP Programms	PPT
9.	L9	EDP Programms	PPT
10.	L10	Entrepreneurial Training	PPT
11.	L11	Traits & Qualities of an Entrepreneur	Lecture
12.	L12	Manager vs. Entrepreneurs	PPT
13.	L13	Entrepreneurs vs. entrepreneurship	Lecture
14.	L14	Entrepreneurial Challenges	Lecture
15.	L15	Entrepreneurial Opportunity Search & Identification	PPT
16.	L16	Entrepreneurial Opportunity Search & Identification	PPT
17.	L17	Criteria to Select a Product	PPT & Chalk
18.	L18	Conducting Feasibility Studies	PPT
19.	L19	Conducting Feasibility Studies	PPT
20.	L20	Sources of business ideas	Lecture & Video
21.	L21	-- do --	PPT
22.	L22	Marketing plan: Conducting of marketing research	PPT
23.	L23	Industry analysis, competitor analysis	PPT
24.	L24	Marketing segmentation and positioning	PPT
25.	L25	Building a marketing plan	PPT
26.	L26	Marketing mix.	PPT
27.	L27	Launching a new product	PPT
28.	L28	Export marketing	PPT
29	L29	Methods of Project Appraisal	PPT
30.	L30	-- do --	Lecture
31.	L31	Project Report Preparation	Lecture
32.	L32	Specimen of Project Report	PPT
33.	L33	Project, Planning & Scheduling using Networking Techniques of PERT/CPM	PPT & Chalk
34.	L34	-- do --	Lecture & Chalk
35.	L35	Definitions of Small Scale, , Objective, Scope,	PPT
36.	L36	Rationale of SSI	Lecture

37.	L37	SSI Registration	PPT
38.	L38	NOC from Pollution Board Machinery & Equipment Selection	PPT
39.	L39	Role of SSI in Economic Development in India	Lecture
40.	L40	Major problem faced by SSI, MSMEs	Lecture
41.	L41	Definition and significance of Indian Economy	Lecture
42.	L42	MSME Schemes	PPT
43.	L43	Challenges and difficulties in availing MSME Schemes	PPT
44.	L44	Director of Industries DIC, SIDO, SIDBI, SIDC, SISI, NSIC, NISBUD, State financial Corporation's.	PPT
45.	L45	Venture capital: financing schemes offered by various financial institutions in India.	PPT
46.	L46	Legal issues: forming business entity , requirements for formation of a private / public limited company.	PPT
47.	L47	Entrepreneurship & intellectual property rights & their importance.	PPT
48.	L48	Case study	PPT
49.	L49	Revision Unit –I	Lecture
50.	L50	Revision Unit - II	Lecture
51.	L51	Revision Unit – III	Lecture
52.	L52	Revision Unit – IV	Lecture

Lesson Plan

Name of the Faculty:	**Er. Kapil Dev/ Er. Rama Chaudhary**
Discipline:	**B.Tech (CSE)**
Semester:	**3rd**
Subject:	**Digital Electronics (ES-207A)**
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	Binary Digits, Logic levels, and digital waveforms, logic system positive and negative	PPT/White Board and Marker
2	L2	Logic operations, logical operators, logic Gates, AND, OR, NOT, NAND, NOR	PPT/White Board and Marker
3	L3	Exclusive –OR and Exclusive –NOR, Active high and active low concepts	PPT/White Board and Marker
4	L4	Universal gates and realization of other gates using universal gates	PPT/White Board and Marker
5	L5	Gate Performance Characteristics and Parameters	PPT/White Board and Marker
6	L6	Boolean Algebra: rules and laws of Boolean Algebra	PPT/White Board and Marker
7	L7	Demorgan's Theorems, Boolean Expressions and Truth Tables	White Board and Marker
8	L8	Standard SOP and POS forms, Minterms and Maxterms	White Board and Marker
9	L9	Canonical representation of Boolean expression, Duality Theorem, Simplification of Boolean Expressions	White Board and Marker
10	L10	Minimization Techniques for Boolean Expressions using Karnaugh Map	White Board and Marker
11	L11	Minimization Techniques for Boolean Expressions using Karnaugh Map	White Board and Marker
12	L12	Quine McCluskey Tabular method	White Board and Marker
13	L13	Quine McCluskey Tabular method	White Board and Marker
14	L14	Introduction of TTL and CMOS logic and their characteristics, Tristate gates	PPT/White Board and Marker
15	L15	Revision of Unit-1	
16	L16	Introduction to combinational Circuits, Adders –Half Adder and Full Adder,	PPT/White Board and Marker
17	L17	Half Subtractors and full subtractor, Parallel adder and subtractor	PPT/White Board and Marker
18	L18	Look –Ahead Carry adders, BCD adder, BCD subtractor,	PPT/White Board and Marker
19	L19	Parity Checker/ Generator	PPT/White Board and Marker

20	L20	Multiplexer	White Board and Marker
21	L21	Demultiplexer,	White Board and Marker
22	L22	Encoder, Priority Encoder	PPT/White Board and Marker
23	L23	Decoder, BCD to Seven Segment Display Decoder/ Driver	PPT/White Board and Marker
24	L24	LCD Display and Comparators	PPT/White Board and Marker
25	L25	Revision of Unit-2 and Assignment 1	
26	L26	Introduction to sequential Circuits, Flip-Flop: Types of Flip Flop RS, D	PPT/White Board and Marker
27	L27	T, JK Flip Flop; Edge triggering, Level Triggering	PPT/White Board and Marker
28	L28	Flip Flop conversions, Master Salve JK Flip Flop	PPT/White Board and Marker
29	L29	Introduction to shift registers, Basic Shift Register Operations, types of shift registers,	PPT/White Board and Marker
30	L30	Bidirectional shift Registers, Shift Register Counters,	PPT/White Board and Marker
31	L31	Introduction to counters, Types of Counters Asynchronous and synchronous counters,	PPT/White Board and Marker
32	L32	Up/ Down Synchronous Counters, Modulo-n Counter, Design of asynchronous counter	White Board and Marker
33	L33	State table, excitation table concepts and Design of synchronous counters	White Board and Marker
34	L34	Ring counter, Application of counters	White Board and Marker
35	L35	Revision of Unit-3	
36	L36	Digital to Analog Converter: Weighed Register, R-2R ladder Network	PPT/White Board and Marker
37	L37	Analog to digital Conversion: Successive Approximation type, Dual Slope type	PPT/White Board and Marker
38	L38	Classification of memories –ROM: ROM organization, PROM, EPROM	PPT/White Board and Marker
39	L39	EEPROM, EAPROM, RAM: RAM organization write operation,	PPT/White Board and Marker
40	L40	Read operation, Memory cycle, Timing wave forms, memory expansion	PPT/White Board and Marker
41	L41	Static RAM Cell, MOSFET RAM cell structure, Dynamic RAM Cell structure	PPT/White Board and Marker
42	L42	Programmable logic Devices Programmable logic array (PLA)	PPT/White Board and Marker
43	L43	Programmable array logic (PAL), Implementation of PLA, PAL using ROM	PPT/White Board and Marker
44	L44	Revision of Unit-4 and Assignment 2	