Lesson Plan

Name of the Faculty:	Er. DeeptiAnand
Discipline:	B.Tech(CSE)
Semester:	5th
Subject:	Digital Data Communication (PE-CS-T301A)
WorkLoad(Lecture/Practical)perweek(Inhours):	Lecture-3

Sr. No	Lecture No.	Theory	
		Topic(IncludingAssignment/Test/Quiz)	Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)
1.	L1	Basic constituents of Communication Systems, need of modulation	Chalk-Board
2.	L2	Amplitude modulation	PPT & Chalk-Board
3.	L3	Spectrum of AM wave	PPT & Chalk-Board
4.	L4	Spectrum of AM wave	PPT & Chalk-Board
5.	L5	Modulation index,	Chalk-Board
6.	L6	DSBSC modulation	Chalk-Board
7.	L7	SSB Modulation	Chalk-Board
8.	L8	Vestigial sideband modulation	PPT & Chalk-Board
9.	L9	ANGLE MODULATION:	Chalk-Board
10.	L10	Frequency and Phase Modulation	Chalk-Board
11.	L11	Spectrum of FM Wave	Chalk-Board
12.	L12	Modulation Index and Bandwidth of FM Signal	Chalk-Board
13.	L13	NBFM and WBFM Techniques	Chalk-Board
14.		**Assignment 1: Difference between Frequency and Phase Modulation, Amplitude modulation**	PPT
15.	L14	Digital data, Digital signals	PPT & Chalk-Board
16.	L15	Encoding schemes: NRZ-L	PPT & Chalk-Board
17.	L16	Encoding schemes: NRZ-I	Chalk-Board
18.	L17	Manchester-Diff-Manchester- encoding	Chalk-Board

19.	L18	Pseudoternary-Bipolar-AMI	Chalk-Board
20.	L19	B8ZS- HDB3	Chalk-Board
21.	L20	Evaluation factors-Digital data	Chalk-Board
22.	L21	Analog signals: Encoding Techniques –ASK-FSK-PSK	Chalk-Board
23.	L22	QPSK-Performance	Chalk-Board
24.		**Assignment 2:Comparison-Analog data, digital signals: Quantization- Sampling theorem**	Chalk-Board
25.	L23	PCM-Delta modulation-Errors- comparison- Analog Data, analog signals	Chalk-Board
26.	L24	Asynchronous and synchronous transmission –Error Detection techniques:	Chalk-Board
27.	L25	Parity checks – Cycle redundancy checks	Chalk-Board
28.	L26	Checksum-Error Correcting codes	PPT & Chalk-Board
29.	L27	Forwards and backward error corrections	Chalk-Board
30.		**Assignment 3: Transmission media. Communication Topologies.**	PPT & Chalk-Board
31.	L28	DTE & DCE interface	Chalk-Board
32.	L29	Characteristics of DTE-DCE interface. Interfaces: Rs-232-C, Rs-449/422, A/423-A	PPT & Chalk-Board
33.	L30	Multiplexing: Advantages, Types of Multiplexing: FDM,	PPT & Chalk-Board
34.	L31	Synchronous TDM, Statistical TDM/Asynchronous TDM, Study of their characteristics	Chalk-Board
35.		**Assignment 4: Satellite parameters and configurations**	PPT & Chalk-Board
36.	L32	Capacity allocation, Frequency Division FDMA;	Chalk-Board
37.	L33	Time Division TDMA- Fixed assigned multiple access (FAMA)	Chalk-Board
38.	L34	Demand assigned multiple access (DAMA) – The concept of spread spectrum: FHSS	Chalk-Board
39.	L35	DSSS – CDMA – Transmission and reception	Chalk-Board
40.	L36	Revised Syllabus	PPT & Chalk-Board

Lesson Plan

Name of the Faculty	Dr. Gaurav Sharma
Discipline	B.TechCSE
Semester	5thSem
Subject	Database management System(PC-CS-301A)
Workload	Lecture-3

Sr. No.	Lecture no.	Topic(Including Assignment /Test)	Teaching Pedagogy
1.	L1	Introduction: Concept & Overview of DBMS, Data Models	Chalk and Board
2.	L2	Hierarchical and Relational Model	Chalk and Board
3.	L3	Levels of abstraction, Database Users	PPT, Chalk and Board
4.	L4	Three Schema architecture of DBMS, Application Network	PPT, Chalk and Board
5.	L5	Entity-Relationship Model, Entities, Attributes and Entity Sets	PPT, Chalk and Board
6.	L6	Relation and Relationships sets	PPT
7.	L7	Mapping Constraints	PPT, Chalk and Board
8.	L8	Keys, Entity-Relationship Diagram	PPT, Chalk and Board
9.	L9	Weak Entity Sets, Extended E-R features	PPT, Chalk and Board
10.	L10	**Doubt Session**	
11.	L11	**Assignment-1**	**Offline**
12.	L12	Relational Model: Structure of relational Databases, Relational Algebra and Relational Calculus	PPT, Chalk and Board
13.	L13	Concept of DDL, DML, DCL	PPT
14.	L14	Aggregate Functions	PPT, Chalk and Board
15.	L15	SQL and Integrity Constraints, Referential Integrity Constraints	PPT, Chalk and Board
16.	L16	Operations on Relational Algebra, Introduction to views, Querying, Nested Sub queries	Chalk and Board
17.	L17	Domain Constraints, assertions, Stored procedures and triggers	Chalk and Board
18.	L18	Relational Model: Structure of relational Databases, Relational Algebra and Relational Calculus	PPT, Chalk and Board
19.	L19	Domain Relational Calculus, Null Values, Basic Structure, Set operations	PPT
20.		**Quiz**	**Online**
21.	L20	Database security application development using SQL	PPT
22.	L21	Relational Database Design: Functional Dependency, , Decomposition statistics and cost base optimization.	Chalk and Board
23.	L22	Different anomalies in designing a Database., Normalization using functional dependencies	Chalk and Board
24.	L23	Boyce-Codd Normal Form, 3NF	Chalk and Board
25.	L24	Normalization using multi-valued dependencies, 4NF, 5NF	Chalk and Board

26.	L25	Internals of RDBMS: Physical data structures	PPT
27.	L26	Query optimization: join algorithm, Transaction processing	PPT, Chalk and Board
28.	L27	Concurrency control and Recovery Management: transaction model properties	Chalk and Board
29.		**Assignment -2**	**Offline**
30.	L28	State serializability	Chalk and Board
31.	L29	lock base protocols, two phase locking	Chalk and Board
32.	L30	Recovery System: Types of Failures	PPT
33.	L31	Recovery Techniques, ARIES	PPT
34.	L32	Concurrency Control: Serial and Serializable Schedules, Conflict Serializability	PPT, Chalk and Board
35.	L33	Enforcing Serializability by Locks-Locking Systems with Several Lock Modes,	PPT, Chalk and Board
36.	L34	Concurrency Control by Timestamps, validation	PPT, Chalk and Board
37.	L35	Transaction states, Serializability and Recoverability	PPT
38.	L36	Transaction Management: ACID Properties	PPT, Chalk and Board
39.	L37	View Serializability	PPT, Chalk and Board
40.	L38	--do--	PPT
41.	L39	Resolving Deadlocks, Distributed Databases: Commit and Lock	PPT, Chalk and Board
42.	L40	**Doubt Session**	

Lesson Plan

Name of the Faculty:	Er. Meenakshi
Discipline:	B.Tech CSE
Semester:	5th
Subject:	Formal Language & Automata Theory(PC-CS-303A)
WorkLoad (Lecture/Practical)Perweek(in hours):	Lecture-3

Sr N o.	Lectu re No.	Theory Topic(Including Assignment/Test/Quiz)	Pedagogy (PPT& Chalk-Board and Board/Video Recording /Activity/Case Study)
1	L1	**Unit 1-** Automata and its Applications. Basics of Finite Automata	Chalk-Board
2	L2	Basic of Deterministic finite Automata (DFA) and examples	Chalk-Board
3	L3	DFA's Limitations and examples	Chalk-Board
4	L4	Basic of Non-Deterministic finite Automata (NFA) and examples.	Chalk-Board
5	L5	Equivalence of DFA and NDFA and examples, Finite Automata with E-Moves	Chalk-Board
6	L6	Regular Expression's Basics	Chalk-Board
7	L7	Equivalence of finite Automata and expression, Regular expression conversion and vice versa	Chalk-Board
8	L8	Automata and its Applications. Basics of Finite Automata	Chalk-Board
9		**Class Test**	Offline
10	L9	**Unit 2-** Introduction to Machines : Concept of basic machines	Chalk-Board
11	L10	Moore and Mealy Machines	Chalk-Board
12	L11	Properties and limitations of FSM	Chalk-Board
13	L12	Conversion of NFA and DFA by Arden's method	Chalk-Board
14	L13	Properties of Regular sets	Chalk-Board
15	L14	The Pumping Lemma for regular sets	Chalk-Board
16	L15	Application of the pumping Lemma Closure Properties of regular sets	Chalk-Board
17		**Assignment on Pumping Lemma**	Offline
18	L16	**Unit 3** - Grammars : Definition	Chalk-Board
19	L17	Context free Grammar	Chalk-Board

20	L18	Context sensitive Grammar	Chalk-Board
21	L19	Grammar ambiguity	Chalk-Board
22	L20	Regular grammar	Chalk-Board
23	L21	Reduced Form	Chalk-Board
24	L22	Removal of useless symbols	Chalk-Board
25	L23	Unit production	Chalk-Board
26	L24	Chomsky Normal Form (CNF)	Chalk-Board
27	L25	Griebach Normal Form (GNF)	Chalk-Board
28	L26	Pushdown Automata : Introduction to push-down machines	Chalk-Board
29	L27	Application of push down machines	Chalk-Board
30		**Queries of 3rd unit**	Offline
31	L28	**Unit 4** -Turing Machines	Chalk-Board
32	L29	Deterministic Turing Machines, Non-Deterministic Turing Machines	Chalk-Board
33	L30	Design of T.M	Chalk-Board
34	L31	Halting Problem of T.M, Universal T.M	Chalk-Board
35	L32	PCP Problem	Chalk-Board
36	L33	Chomsky Hierarchy of grammars	Chalk-Board
37	L34	unrestricted grammar, Context sensitive Language	Chalk-Board
38	L35	Relation between languages of classes, Decidability and undecidability properties	Chalk-Board
39	L36	P-NP class and completeness, Rice Theorem	Chalk-Board
40		**Queries of 4th unit**	Offline

Lesson Plan

Name of the Faculty:	Er. Surbhi Bajaj
Discipline:	B.Tech CSE
Semester:	5th
Subject:	Microprocessor & Interfacing(ES-301A)
Work Load (Lecture/Practical) per week (in hours):	Lecture - 3

S r No.	Lecture No.	Theory Topic(Including Assignment/Test/Quiz)	Pedagogy (PPT& Chalk-Board and Board/Video Recording /Activity/Case Study)
1	L1	**Unit 1** 8086 CPU ARCHITECTURE: 8086 Block diagram; description of data registers, address registers	PPT & Chalk-Board
2	L2	pointer and index registers, PSW,	PPT & Chalk-Board
3	L3	Queue, BIU and EU. 8086	PPT & Chalk-Board
4	L4	Pin diagram descriptions 8086	PPT & Chalk-Board
5	L5	Generating 8086 CLK and reset signals using 8284.	PPT & Chalk-Board
6	L6	WAIT state generation	PPT & Chalk-Board
7	L7	Microprocessor BUS types and buffering techniques,	PPT & Chalk-Board
8	L8	8086 minimum mode	Offline
9	L9	8086maximum mode CPU module.	PPT & Chalk-Board
10		**Assignments -1**	Offline
11	L10	**Unit 2** Main Memory System Design: Memory devices,8086	Chalk-Board
12	L11	8086 CPU Read/Write timing diagrams in minimum mode	PPT & Chalk-Board
13	L12	8086 CPU Read/Write timing diagrams in maximum mode.	PPT & Chalk-Board
14	L13	Address decoding techniques.	PPT & Chalk-Board
15	L14	Interfacing SRAMS; ROMS	PPT & Chalk-Board
16	L15	Interfacing SRAMS:PROMS	PPT & Chalk-Board
17	L16	Interfacing and refreshing DRAMS.	PPT & Chalk-Board
		Query Session Unit	Offline
		Class Test Unit 2	Offline
18	L17	**Unit 3** 8086 Instruction Set: Instruction formats	PPT & Chalk-Board
19	L18	addressing modes, Data transfer instructions,	PPT & Chalk-Board
20	L19	string instructions, logical instructions	PPT & Chalk-Board

21	L20	arithmetic instructions, transfer of control instructions;	PPT & Chalk-Board
22	L21	process control instructions; Assembler directives	PPT & Chalk-Board
23	L22	Writing assembly Language programs for logical processing, arithmetic processing	PPT & Chalk-Board
24	L23	timing delays; loops, data conversions	PPT & Chalk-Board
25		**Query Session Unit**	Offline
26		**Class Test Unit 3**	Offline
27	L24	**Unit 4** Basic I/O Interface: Parallel and Serial I/O Port design	PPT & Chalk-Board
28	L25	address decoding.	PPT & Chalk-Board
29	L26	Memory mapped I/O Vs Isolated I/O	PPT & Chalk-Board
30	L27	Intel's 8255 and 8251- description	PPT & Chalk-Board
31	L28	Intel's 8255 and 8251 interfacing with 8086.	PPT
32	L29	ADCs and DACs, - types, operation	PPT
33	L30	ADCs and DACs, interfacing with 8086	PPT
34	L31	Interfacing Keyboards with 8086	PPT
35	L32	interfacing alphanumeric displays with 8086	PPT
36	L33	Interfacing Multiplexed displays with 8086	PPT
37	L34	stepper motor, with 8086	PPT
38	L35	optical encoder with 8086	PPT
39	L36	Interrupts and DMA: 8086 Interrupt mechanism;	PPT & Chalk-Board
40	L37	interrupt types and interrupt vector table	PPT & Chalk-Board
41	L38	Applications of interrupts	PPT & Chalk-Board
42	L39	Intel's 8259. DMA operation	PPT & Chalk-Board
43	L40	Intel's 8237.	PPT & Chalk-Board
		Query Session Unit	Offline
44		**Assignments -2**	Offline

Lesson Plan

Name of the Faculty:	Er. Shabnam Parveen
Discipline:	B.Tech(CSE)
Semester:	5th
Subject:	Computer Organization and Architecture (PC– CS -307A)
Work Load(Lecture/Practical)per week(In hours):	Lectures-3

S.No	Lecture No.	Theory Topic(IncludingAssignment/Test/Quiz)	Pedagogy (PPT/Chalk and Board/ Video Recording /Activity/Case Study)
1	L1	Introduction to Computer Systems, Organization and architecture	PPT/White Board and Marker
2	L2	Von Neumann Architecture, evolution and computer generations	PPT/White Board and Marker
3	L3	Fixed point representation of numbers,	PPT/White Board and Marker
4	L4	Digital arithmetic algorithms for Addition, Subtraction	PPT/White Board and Marker
5	L5	Multiplication using Booth's algorithm	PPT/White Board and Marker
6	L6	Division using restoring and non restoring algorithms.	PPT/White Board and Marker
7	L7	Floating point representation with IEEE standards and its arithmetic operations.	PPT/White Board and Marker
8	L8	Memory Organization: Memory Hierarchy	PPT/White Board and Marker
9	L9	Main Memory, Auxiliary Memory,	PPT/White Board and Marker
10	L10	Associative Memory,	PPT/White Board and Marker
11	L11	Cache Memory,	PPT/White Board and Marker
12	L12	Virtual Memory.	PPT/White Board and Marker
13	L13	**Revision of Unit-1**	PPT/White Board and Marker
14	L14	Instruction codes, stored program organization, computer registers and common bus system,	PPT/White Board and Marker
15	L15	Computer instructions, timing and control	PPT/White Board and Marker
16	L16	Instruction cycle: Fetch and Decode, Register reference instructions; Memory reference instructions	PPT/White Board and Marker

17	**L17**	Input, output and Interrupt: configuration, instructions,	PPT/White Board and Marker
18	**L18**	Program interrupt, Interrupt cycle,	PPT/White Board and Marker
19	**L19**	Micro programmed Control organization, Control Memory	PPT/White Board and Marker
20	**L20**	Address sequencing, Micro program Example	PPT/White Board and Marker
21	**L21**	Micro instruction format, Horizontal Vs Vertical micro-programming	PPT/White Board and Marker
22	**L22**	Design of control Unit,Microprogram sequencer, and Hardwired v/s Micro-programmed Control Unit.	PPT/White Board and Marker
23	**L23**	**Revision of Unit-2 and Assignment 1**	PPT/White Board and Marker
24	**L24**	General register organization, stack organization	PPT/White Board and Marker
25	**L25**	Instruction formats (Zero, One, Two and Three Address Instruction)	PPT/White Board and Marker
26	**L26**	Addressing modes	PPT/White Board and Marker
27	**L27**	Data transfer and manipulation	PPT/White Board and Marker
28	**L28**	Program control. CISC and RISC: features and comparison	PPT/White Board and Marker
29	**L29**	Pipeline and vector Processing	PPT/White Board and Marker
30	**L30**	Instruction Pipeline,	PPT/White Board and Marker
31	**L31**	Basics of vector processing and Array Processors	PPT/White Board and Marker
32	**L32**	**Revision of Unit-3**	PPT/White Board and Marker
33	**L33**	I/O interface. I/O Bus and interface modules, I/O versus Memory Bus.	PPT/White Board and Marker
34	**L34**	Asynchronous data transfer: Strobe control, Handshaking, Asynchronous serial transfer	PPT/White Board and Marker
35	**L35**	Modes of Transfer: Programmed I/O, Interrupt driven I/O,	PPT/White Board and Marker
36	**L36**	Priority interrupt; Daisy chaining, Parallel Priority interrupt.	PPT/White Board and Marker
37	**L37**	Direct memory Access, DMA controller and transfer	PPT/White Board and Marker
38	**L38**	Input output Processor	PPT/White Board and Marker

39	**L39**	CPU-IOP communication , Serial communication	PPT/White Board and Marker
40	**L40**	**Revision of Unit-4 Assignment2**	PPT/White Board and Marker

Lesson Plan

NameoftheFaculty:	Dr. VikasBhardwaj
Discipline:	B. Tech (CSE)
Semester:	5th
Subject:	Energy Resources & Management (MC-904A)
WorkLoad(Lecture/Practical)perweek(Inhours):	Lecture: 3

S.No	Lecture No.	Theory	
		Topic(IncludingAssignment/Test/Quiz)	Pedagogy (PPT/Chalk and Board/Video Recording /Activity/Case Study)
1.	L1	**Introduction:**Types of energy	Chalk and Board
2.	L2	Conversion of various forms of energy	Chalk and Board
3.	L3	Conventional and Non-conventional sources	Chalk and Board
4.	L4	Need for Non-Conventional Energy based power generation	Chalk and Board
5.	L5	**Conventional Energy Sources:** Types of Conventional Energy sources	Chalk and Board
6.	L6	Selection of site, Schematic diagram of Thermal power plant	Chalk and Board
7.	L7	Working & advantages/ disadvantages. of Thermal power plant	Chalk and Board
8.	L8	Selection of site, Schematic diagram of Hydro power plant	Chalk and Board
9.	L9	Working & advantages/ disadvantages. of Hydro power plant	Chalk and Board
10.	L10	Selection of site, Schematic diagram of Nuclear power plant	Chalk and Board
11.	L11	Working & advantages/ disadvantages. of Nuclear power plant	Chalk and Board
12.	L12	Selection of site, Schematic diagram of Diesel power plant	Chalk and Board
13.	L13	Working & advantages/ disadvantages. of Diesel power plant	Chalk and Board
14.	L14	Comparative advantages & disadvantages of Thermal, Hydro, Nuclear and Diesel power plants	Chalk and Board
15.	L15	Problems based on Thermal, Hydro, Nuclear and Diesel power plants	Chalk and Board
16.	L16	**Non-Conventional Energy Resources:**Types of Non-Conventional Energy sources	Chalk and Board
17.	L17	Basic principle, siteselection& working of Solar energy power plant	Chalk and Board

18.	L18	Schematic diagram &advantages/ disadvantages.ofSolar energypower plant	Chalk and Board
19.	L19	Photovoltaic Technologies	Chalk and Board
20.	L20	PV systems & their components	Chalk and Board
21.	L21	Basic principle, siteselection& working of Wind energy power plant	Chalk and Board
22.	L22	Schematic diagram &advantages/ disadvantages.of Wind energypower plant	Chalk and Board
23.	L23	Basic principle, siteselection& working of Bio energy power plant	Chalk and Board
24.	L24	Schematic diagram &advantages/ disadvantages.of Bio energypower plant	Chalk and Board
25.	L25	Basic principle, siteselection& working of Geothermal energy power plant	Chalk and Board
26.	L26	Schematic diagram &advantages/ disadvantages.of Geothermal energypower plant	Chalk and Board
27.	L27	Basic principle, siteselection& working of Tidal energy power plant	Chalk and Board
28.	L28	Schematic diagram &advantages/ disadvantagesof Tidal energypower plant	Chalk and Board
29.	L29	**Energy Management:**General Principles of Management	Chalk and Board/ **Video Recording**
30.	L30	Energy management strategy	Chalk and Board
31.	L31	Moderntrends and developments towards Computerizations of Power System.	Chalk and Board
32.	L32	**Energy Audit:**Need, Types	Chalk and Board/ **Video Recording**
33.	L33	Methodology and Approach	Chalk and Board/ **Video Recording**
34.	L34	**Energy Scenario:**Lay out of power system	Chalk and Board/ **Video Recording**
35.	L35	Role of Energy in Economic development, energy demand, availability and consumption	Chalk and Board/ **Video Recording**
36.	L36	Indian energy scenario, long term energy scenario	Chalk and Board/ **Video Recording**
37.	L37	Energy sector reforms in India, energy strategy for the future.	Chalk and Board/ **Video Recording**

Lesson Plan

Name of the Faculty:	Er. Rajiv Bansal
Discipline:	B.Tech (CSE)
Semester:	5th
Subject:	Essentials of Information Technology (PC-CS-305A)
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.	Importance and features of Java, Concepts of Java Virtual machine (JVM)	PPT / Chalk and Board
2.	L2.	Keywords, Constants, Variables and data types	PPT / Chalk and Board
3.	L3.	operators and expressions, Control statements, Conditional statements, loops and iterations	PPT / Chalk and Board
4.	L4.	Class definition, adding variables and methods, creating objects	PPT
5.	L5.	constructors, defining methods, calling methods, method overloading	PPT
6.	L6.	Creating an array, one and two dimensional array	PPT
7.	L7.	String array and methods	PPT
8.	L8.	String Buffer classes	PPT
9.	L9.	Wrapper classes	PPT
10.	L10.	Packages and Interfaces	PPT
11.	L11.	Exception handling	PPT
12.		**Assignment 1**	
13.	L12.	Swing, Applet	PPT
14.	L13.	Icons and Labels	PPT

15.	L14.	Text Fields, Buttons, button Class	PPT
16.	L15.	Check Box, Radio Buttons	PPT
17.	L16.	Container, Panel	PPT
18.	L17.	Windows and Frame Classes	PPT
19.	L18.	ComboBox	PPT
20.	L19.	TabbedPanes	PPT
21.	L20.	ScrollPanes	PPT
22.	L21.	Trees	PPT
23.	L22.	Tables	PPT
24.		**Assignment 2**	
25.	L23.	Introduction to Servlets, Life cycle of Servlets	PPT
26.	L24.	Creating, Compiling and running Servlet	PPT
27.	L25.	Reading the servlet Parameters, Reading Initialization parameter	PPT
28.	L26.	javax.servlet Package	PPT
29.	L27.	Handling HTTP Request and Response (GET / POST Request)	PPT
30.	L28.	Cookies	PPT
31.	L29.	Session Tracking	PPT
32.	L30.	Collection, List, Map	PPT
33.	L31.	Tree, Hashing	PPT
34.	L32.	JDBC Fundamentals	PPT
35.	L33.	Establishing Connectivity and working with connection interface	PPT
36.	L34.	Working with statements	PPT
37.	L35.	Creating and Executing SQL statements	PPT
38.	L36.	Working with ResultSet Object	PPT
39.	L37.	Result Set Meta Data	PPT