Haryana Engineering College, Jagadhri

Lesson Plan of Electronics & Comm. Engineering Deptt. 6th Semester

Subject : Organizational Behaviour (HM-901A)

Objective of Course :

1. An overview about organizational behavior as a discipline and understanding the concept of individual behavior.
2. Understand the concept and importance of personality, emotions and its importance in decision making and effective leadership.
3. Enabling the students to know about the importance of effective motivation and its contribution in group dynamics and resolving conflicts.
4. Understand how to overcome organizational stress by maintaining proper organizational culture and effective communication

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Introduction to organizational behavior: Concept and importance of organizational behavior	Lecture	
Day 2	Role of Managers in OB	Lecture	
Day 3	Foundations or approaches to organizational behaviour	Lecture	
Day 4	Challenges and opportunities for OB.	Lecture	
Day 5	Foundation of individual behavior: Biographical characteristics	Lecture	
Day 6	Concept of abilities and learning	Lecture	
Day 7	Learning and learning cycle	Lecture	
Day 8	Components of learning	Lecture	Assignment 1
Day 9	Concept of values and attitude, types of attitude	Lecture	
Day10	Attitude and workforce diversity.	Lecture	
Day11	Introduction to personality and emotions: Definition and Meaning of Personality	Lecture	
Day12	Determinants of Personality	Lecture	
Day13	Personality Traits Influencing OB	Lecture	
Day14	Nature and Meaning of Emotions	Lecture	
Day15	Emotions dimensions	Lecture	
Day16	Concept of Emotional intelligence.	Lecture	
Day17	Perception and individual decision making: meaning of perception	Lecture	
Day18	Factors influencing perception	Lecture	Assignment 2
Day19	Rational decision making process	Lecture	
Day20	Concept of bounded rationality	Lecture	
Day21	Leadership-trait approaches	Lecture	
Day22	Behavioural approaches, situational approaches	Lecture	
Day23	Emerging approaches to leadership.	Lecture	
Day24	Motivation: Concept and theories of motivation	Lecture	

Day25	Theories of motivation-Maslow, two factor theory	Lecture	
Day26	Theory X and Y, ERG Theory	Lecture	
Day27	McClelland's theory of needs, Goal setting theory	Lecture	Assignment 3
Day28	Application of theories in organizational scenario	Lecture	
Day29	Linkage between MBO and goal setting theory	Lecture	
Day30	Employee recognition and involvement program	Lecture	
Day31	Foundations of group behavior and conflict management: Defining and classifying of groups	Lecture	
Day32	Stages of group development, Informal and formal groups- group dynamics	Lecture	
Day33	Managing conflict and negotiation, a contemporary perspective of intergroup conflict	Lecture	
Day34	Causes of group conflicts, managing intergroup conflict through resolution	Lecture	
Day35	Introduction to Organizational Communication: Meaning and importance of communication process	Lecture	Assignment 4
Day36	Importance of organizational communication, effective communication	Lecture	
Day37	Organizational stress: definition and meaning sources and types of stress	Lecture	
Day38	Impact of stress on organizations, stress management techniques.	Lecture	
Day39	Introduction to Organization Culture: Meaning and nature of organization culture	Lecture	
Day40	Types of culture, managing cultural diversity	Lecture	
Day41	Managing change and innovation-change at work, resistance to change	Lecture	
Day42	A model for managing organizational change	Lecture	

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Haryana Engineering College, Jagadhri

Lesson Plan of Electronics & Comm. Engineering Deptt. 6th Semester

Subject : Control System Engineering (EC-302A)

Objective of Course :

The purpose of this course is to create awareness about the various types of control systems with the techniques to analyze them so that the learner is able to mathematically design and evaluate the conditions for which a control system can provide stable output with improved performance.

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Introduction	Lecture	
Day 2	The Control system-Open loop & Closed loop	Lecture	
Day 3	Servomechanism, Stepper motor	Lecture	
Day 4	Mathematical Models of Physical Systems	Lecture	Assignment 1
Day 5	Differential equation of physical systems, Transfer Function	Lecture	
Day 6	Block Diagram Algebra, Signal Flow-Graphs	Lecture	
Day 7	Mason's Formula & its application	Lecture	
Day 8	Feedback Characteristics of Control Systems: Feedback and Non-Feedback systems	Lecture	Assignment 2
Day 9	Effects of Feedback on sensitivity (to parameter variations)	Lecture	
Day10	Stability, Overall gain etc.	Lecture	
Day11	Time Response Analysis	Lecture	
Day12	Standard test signals	Lecture	
Day13	Time response of first order and second order systems	Lecture	Assignment 3
Day14	Steady-State Errors and Error Constants	Lecture	
Day15	Design Specification of second-order- systems	Lecture	
Day16	Stability: The concept of stability, necessary conditions for stability	Lecture	
Day17	Hurwitz Stability Criterion	Lecture	
Day18	Routh Stability Criterion, Relative Stability Analysis	Lecture	Assignment 4
Day19	The Root Locus Technique: The Root Locus Concept	Lecture	
Day20	Construction development of Root loci for various systems	Lecture	
Day21	Stability considerations	Lecture	
Day22	Proportional, Integral and Derivative Controllers	Lecture	
Day23	Frequency Response & Stability Analysis	Lecture	Assignment 5
Day24	Correlation between Time and	Lecture	

	Frequency response		
Day25	Polar Plots	Lecture	
Day26	Nyquist plots	Lecture	
Day27	Bode Plots	Lecture	Assignment 6
Day28	Nyquist Stability criterion	Lecture	
Day29	Gain margin & Phase margin	Lecture	Assignment 7
Day30	Relative stability using Nyquist Criterion, frequency response specifications.	Lecture	
Day31	Compensation of Control Systems	Lecture	
Day32	Necessity of Compensation	Lecture	
Day33	Phase Lag compensation	Lecture	
Day34	Phase Lead Compensation	Lecture	
Day35	Phase Lag Lead Compensation	Lecture	Assignment 8
Day36	Feedback Compensation	Lecture	
Day37	State Variable Analysis: Concept of State	Lecture	
Day38	State Variable and State Model	Lecture	
Day39	State Models for Linear Continuous Time Systems	Lecture	
Day40	Diagonalization	Lecture	
Day41	Solution of state equations	Lecture	
Day42	Concept of Controllability and Observability	Lecture	

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Haryana Engineering College, Jagadhri

Lesson Plan of Electronics & Comm. Engineering Deptt. 6th Semester

Subject : Verilog HDL (EC-306A)

Objective of Course :

To familiarize the students with the conventions of the Verilog HDL programming, algorithmic levels of abstraction for modelling digital hardware systems, the concept of test-benches to create testing, behavioral environments for simulation based verification.

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Introduction: Introduction, conventional approach to digital design	Lecture	
Day 2	VLSI design, ASIC design flow	Lecture	
Day 3	Role of HDL, Conventional Data flow, ASIC data flow	Lecture	
Day 4	Verilog as HDL	Lecture	Assignment 1
Day 5	Levels of Design Description, Concurrency	Lecture	
Day 6	Simulation and Synthesis, Functional Verification	Lecture	
Day 7	System Tasks, Programming Language Interface (PLI)	Lecture	
Day 8	Module, Simulation and Synthesis Tools, Test Benches	Lecture	
Day 9	Language constructs and conventions: Introduction, Keywords, Identifiers, White Space Characters	Lecture	
Day10	Comments, Numbers, Strings, Logic Values	Lecture	
Day11	Strengths, Data Types, Scalars and Vectors, Parameters	Lecture	
Day12	Memory, Operators, System Tasks.	Lecture	
Day13	Gate level modelling: Introduction, AND Gate Primitive	Lecture	Assignment 2
Day14	Illustrative Examples, Tri-State Gates	Lecture	
Day15	Array of Instances of Primitives	Lecture	
Day16	Additional Examples, Design of Flip-flops with Gate Primitives	Lecture	
Day17	Delays, Strengths and Contention Resolution, Net Types, Design of Basic Circuits.	Lecture	
Day18	Behavioral modelling: Introduction, Operations and Assignments	Lecture	
Day19	Functional Bifurcation, Initial Construct	Lecture	
Day20	Always Construct, Examples	Lecture	
Day21	Assignments with Delays, Wait construct, Multiple Always Blocks	Lecture	

Day22	Designs at Behavioral Level, Blocking and Non-blocking Assignments	Lecture	
Day23	The case statement, Simulation Flow	Lecture	Assignment 3
Day24	If and ifelse constructs	Lecture	
Day25	Assign-deassign construct, repeat construct	Lecture	
Day26	For loop, the disable construct	Lecture	
Day27	While loop, forever loop	Lecture	
Day28	Parallel blocks, force-release construct	Lecture	
Day29	Event	Lecture	
Day30	Modelling at data flow level: Introduction, Continuous Assignment Structures	Lecture	
Day31	Delays and Continuous Assignments	Lecture	
Day32	Assignment to Vectors, Operators	Lecture	
Day33	Additional Examples	Lecture	
Day34	Switch level modelling: Introduction, Basic Transistor Switches	Lecture	
Day35	CMOS Switch, Bi-directional Gates, Time Delays with Switch Primitives	Lecture	Assignment 4
Day36	Instantiations with Strengths and Delays, Strength Contention with Trireg Nets.	Lecture	
Day37	Functions, tasks, and user defined primitives: Introduction, Function	Lecture	
Day38	Tasks	Lecture	
Day39	User- Defined Primitives (UDP)	Lecture	
Day40	FSM Design (Moore and Mealy Machines)	Lecture	
Day41	System tasks, functions, and compiler directives: Introduction, Parameters	Lecture	
Day42	Path Delays, Module Parameters, System Tasks and Functions	Lecture	
Day43	File-Based Tasks and Functions, Compiler Directives	Lecture	Assignment 5
Day44	Hierarchical Access, General Observations	Lecture	

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Haryana Engineering College, Jagadhri

Lesson Plan of Electronics & Comm. Engineering Deptt. 6th Semester

Subject : Transducer & Their Applications (ECO-8A)

Objective of Course :

Understanding the structural and functional principles of sensors and transducers used for various physical and nonelectric quantities and how to use them to measure these quantities.

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Definition of transducer	Lecture	
Day 2	Advantages of an electrical signal as output	Lecture	
Day 3	Basic requirements of transducers	Lecture	
Day 4	Primary and Secondary Transducer	Lecture	Assignment 1
Day 5	Analog or digital types of transducers	Lecture	
Day 6	Resistive, inductive, capacitive	Lecture	
Day 7	Piezoelectric	Lecture	
Day 8	Photoelectric	Lecture	Assignment 2
Day 9	Hall Effect tranducers	Lecture	
Day10	Measurement of Pressure	Lecture	
Day11	Manometers	Lecture	
Day12	Force summing devices	Lecture	
Day13	Electrical transducers	Lecture	
Day14	Measurement of Temperature	Lecture	
Day15	Metallic resistance thermometers	Lecture	
Day16	Semi conductor resistance sensors (Thermistors)	Lecture	
Day17	Thermo-electric sensors	Lecture	
Day18	Pyrometers	Lecture	Assignment 3
Day19	Measurement of Displacement	Lecture	
Day20	Potentiometric resistance type transducers	Lecture	
Day21	Inductive type transducers	Lecture	
Day22	Differential transformer (L.V.D.T)	Lecture	
Day23	Capacitive transducers	Lecture	
Day24	Hall effect devices	Lecture	
Day25	Strain gage transducers.	Lecture	
Day26	Measurement of Velocity	Lecture	
Day27	Variable reluctance pick up	Lecture	Assignment 4
Day28	Electromagnetic tachometers	Lecture	
Day29	Photoelectric tachometer	Lecture	
Day30	Toothed rotor tachometer generator	Lecture	

Day31	Measurement of Force	Lecture	
Day32	Strain-gage load cells	Lecture	
Day33	Pneumatic load cell	Lecture	
Day34	LVDT type force transducer	Lecture	
Day35	Measurement of Torque	Lecture	Assignment 5
Day36	Torque meter	Lecture	
Day37	Torsion meter	Lecture	
Day38	Absorption dynamometers	Lecture	
Day39	Inductive torque transducer	Lecture	
Day40	Digital methods	Lecture	

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Haryana Engineering College, Jagadhri

Lesson Plan of Electronics & Comm. Engineering Deptt. 6th Semester

Subject : CMOS Design (ECP-7A)

Objective of Course :

1. Student will be able to analyze MOS transistor characteristics.
2. Student will be able to design CMOS invertor of specific characteristics.
3. Student will be able to design combinational CMOS circuit of given Boolean Equation.
4. Student will be able to design sequential CMOS circuit of given specification

Day	Topic / Chapter Covered	Academic Activity	Test/Assignment
Day 1	Introduction	Lecture	
Day 2	Overview of VLSI Design Methodologies	Lecture	
Day 3	VLSI Design flow	Lecture	
Day 4	VLSI Design flow	Lecture	Assignment 1
Day 5	Design hierarchy	Lecture	
Day 6	VLSI Design styles	Lecture	
Day 7	VLSI Design styles	Lecture	
Day 8	MOS Transistor	Lecture	Assignment 2
Day 9	MOS structure	Lecture	
Day10	MOS structure	Lecture	
Day11	MOS system under external bias	Lecture	
Day12	Structure and operation of MOSFET	Lecture	
Day13	C-V characteristics	Lecture	Assignment 3
Day14	MOS Invertors	Lecture	
Day15	Introduction	Lecture	
Day16	Resistive load invertor	Lecture	
Day17	Invertor with n-type MOSFET load	Lecture	
Day18	CMOS invertor	Lecture	Assignment 4
Day19	Circuit operation	Lecture	
Day20	Noise margin	Lecture	
Day21	Design of invertor	Lecture	
Day22	Design of invertor	Lecture	
Day23	Power and area consideration	Lecture	Assignment 5
Day24	Combinational MOS Logic	Lecture	
Day25	nMOS logic circuits with depletion nMOS load	Lecture	
Day26	CMOS logic circuits	Lecture	
Day27	CMOS logic circuits	Lecture	Assignment 6
Day28	Complex logic circuits	Lecture	
Day29	Complex logic circuits	Lecture	Assignment 7
Day30	Complex logic circuits	Lecture	
Day31	CMOS pass gates	Lecture	
Day32	CMOS pass gates	Lecture	
Day33	Sequential MOS Logic circuits	Lecture	
Day34	Behaviour of bistable elemens	Lecture	
Day35	SR latch circuit	Lecture	Assignment 8

Day36	Clocked latch	Lecture	
Day37	Flip flop	Lecture	
Day38	Flip flop	Lecture	
Day39	CMOS D Latch	Lecture	
Day40	Edge triggered flip flop	Lecture	

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