

Lesson Plan

| | |
|---------------------------------|--------------------------------------|
| Name of the Institute : | CVRP |
| Department : | EE |
| Semester/Division/Branch : | 5th EE |
| Subject Name with code : | DIGITAL ELECTRONICS & MICROPROCESSOR |
| Total No. of Class (Required) : | 60 |

Faculty Name: SUCHISMITA SATAPATHY

| Class No. | Brief Description of the Topic/Chapter to be taught | Remark |
|-----------|---|--------|
| 1 | List different number system & their relevance : binary, octal, decimal, Hexadecimal | |
| 2 | Study the Conversion from one number system to another | |
| 3 | Perform Arithmetic operations of binary number systems. | |
| 4 | Represent the Concept of complemently numbers : 1's & 2's complement of Binary numbers. | |
| 5 | Perform Subtraction of binary numbers using complementary numbers. | |
| 6 | Perform multiplication and division of binary numbers. | |
| 7 | Define concept of Digital Code & its application. | |
| 8 | Distinguish between weighted & non-weight Code. | |
| 9 | Study Codes : definition, relevance, types (BCD, Gray, Excess-3 and ASCII code. and applications. | |
| 10 | Generation of Error Detection & Correction Code using parity bit. | |
| 11 | Learn the Basic Logic gates (NOT, OR, AND, NOR, NAND, EX-OR & EXNOR) – Symbol, function, expression, truth table & example IC nos. | |
| 12 | Define Universal Gates with examples & realization of other gates. | |
| 13 | Understand Boolean : constants, variables & functions. | |
| 14 | Comprehend the Laws of Boolean algebra, State and prove Demorgan's Theorems. | |
| 15 | Represent Logic Expression : SOP & POS forms & conversion. | |
| 16 | Simplify the Logic Expression/Functions (Maximum of 4 variables) : using Boolean algebra and Karnaugh's map methods. | |
| 17 | What is don't care conditions ?, Realisation of simplified logic expression using gates. | |
| 18 | Illustrate with examples the above. | |
| 19 | Doubt Clearing class for Unit-I. | |
| 20 | Doubt Clearing class for Unit-I. | |
| 21 | Define a Combinational Circuit and explain with examples. Arithmetic Circuits (Binary). | |
| 22 | Truth table & applications of Half-adders, Full-adder & full-Subtractor. | |
| 23 | Multiplexure & De-Multiplexure. | |
| 24 | Discuss Decoders : definition, relevance, gate level of circuit of simple decoders, Logic circuit of high order encoders, truth table & example IC nos. | |
| 25 | Digital Comparator, Seven segment Decoder. | |
| 26 | Explain the working of Binary-Decimal Encoder & Decoder. | |
| 27 | Doubt Clearing class for Unit-II. | |
| 28 | Doubt Clearing class for Unit-II. | |
| 29 | Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip-flop with logic Circuit and truth tables. | |
| 30 | Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip-flop with logic Circuit and truth tables. | |
| 31 | Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip-flop with logic Circuit and truth tables. | |
| 32 | Define Flip-Flop. Study RS, Clocked RS, D, T, JK, MS-JK flip-flop with logic Circuit and truth tables. | |
| 33 | Concept of Racing and how it can be avoided. | |

| | | |
|----|---|--|
| 34 | Concept of Racing and how it can be avoided. | |
| 35 | Explain the working of various types of shift registers – ISO, SIPO, PISO, PIPO. | |
| 36 | Universal shift registers-Applications. | |
| 37 | Types of Counter & applications. | |
| 38 | Binary counter, Asynchronous ripple counter (UP & DOWN), Decade counter. Synchronous counter, Ring Counter. | |
| 39 | Doubt Clearing class for Unit-III. | |
| 40 | Introduction to Microprocessors, Microcomputers. | |
| 41 | Architecture of Intel 8085A Microprocessor and description of each block. | |
| 42 | Pin diagram and description. | |
| 43 | Stack, Stack pointer & stack top | |
| 44 | Interrupts | |
| 45 | Opcode & Operand | |
| 46 | Differentiate between one byte, two byte & three byte instruction with example. | |
| 47 | Instruction set of 8085 example | |
| 48 | Addressing mode of 8085 Microprocessor. | |
| 49 | Fetch Cycle, Machine Cycle, Instruction Cycle, T-State | |
| 50 | Timing Diagram for memory read, memory write, I/O read, I/O write | |
| 51 | Timing Diagram for 8085 instruction | |
| 52 | Counter and time delay, Simple assembly language programming of 8085. | |
| 53 | Doubt Clearing class for Unit-IV | |
| 54 | Basic Interfacing Concepts, Memory mapping & I/O mapping | |
| 55 | Functional block diagram and description of each block of Programmable peripheral interface Intel 8255 | |
| 56 | Application using 8255: Seven segment LED display, Square wave generator, Traffic light Controller | |
| 57 | Doubt Clearing class for Unit-V | |
| 58 | Previous Year Semester Question discussion. | |
| 59 | Previous Year Semester Question discussion. | |
| 60 | Previous Year Semester Question discussion. | |

Sign. of Faculty 

Sign. of H.O.D 