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| **LESSON PLAN** | | | |
| **Semester: 3RD Branch: COMPUTER SCIENCE. Subject:-DIGITAL ELECTRONICS** | | | |
| MONTH | NOs of  Periods as  Per Syllabus | NOs of  Periods  Actually  available | TOPICS TO BE COVERED |
| SEP | 12  12 | 20 | **Unit-1: Basics of Digital Electronics**   * 1. NumberSystem-Binary, Octal,Decimal,Hexadecimal-Conversionfromone systemtoanother numbersystem.   2. ArithmeticOperation-Addition,Subtraction, Multiplication, Division,1‟s&2‟s   complement of Binary numbers&Subtraction using  complements method   * 1. DigitalCode&itsapplication&distinguishbetweenweighted&non-weightCode, Binarycodes, excess-3andGraycodes.   2. Logic gates:AND,OR,NOT,NAND,NOR,Exclusive-OR,Exclusive-NOR--Symbol,Function,expression, truthtable& timingdiagram   3. Universal Gates&itsRealisation   4. Booleanalgebra,Booleanexpressions,Demorgan‟s Theorems.   5. Represent LogicExpression:SOP&POS forms   6. Karnaughmap(3 &4Variables)&Minimization oflogicalexpressions,don‟tcare   conditions Unit-2: CombinationalLogicCircuits  * 1. Halfadder,Fulladder,HalfSubtractor,Full Subtractor,Serial andParallelBinary4 bitadder.   2. Multiplexer(4:1), De-multiplexer(1:4),Decoder,Encoder,Digital comparator (3Bit)   3. SevensegmentDecoder   (Definition,relevance,gatelevelofcircuitLogic circuit,truthtable,Applicationsofabove) |

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| OCT  NOV  DEC  JAN | 12  08  07  09 | 15  14 | Unit-3:SequentiallogicCircuits  |  |  |  | | --- | --- | --- | | 3.1 | Principleof flip-flopsoperation, itsTypes, |  | | 3.2 | SR FlipFlopusingNAND,NORLatch(un clocked) | | 3.3 | Clocked SR,D,JK,T,JK Master Slaveflip-flops-Symbol, | logicCircuit, truth | |  | table andapplications |  | | 3.4 | ConceptofRacingand howitcan beavoided. |  |   **Unit-4:Registers, Memories &PLD**   |  |  |  | | --- | --- | --- | | 4.1 | Shift Registers-Serial in Serial-out,Serial-inParallel-out, | Parallelinserial out | |  | and Parallel inparallel out |  | | 4.2 | Universal shiftregisters-Applications. |  | | 4.3 | TypesofCounter&applications |  |  * 1. Binarycounter, Asynchronousripplecounter(UP&DOWN),Decadecounter.   2. Synchronous counter,RingCounter.   3. Conceptofmemories-RAM,ROM,staticRAM, dynamic RAM,PSRAM   4. BasicconceptofPLD&applications  Unit-5:A/DandD/A Converters  * 1. Necessity of A/D and D/A converters.   2. D/A conversion using weighted resistors methods.   3. D/A conversionusing R-2Rladder(Weighted resistors)network.   4. A/D conversionusingcountermethod.   5. A/D conversionusingSuccessiveapproximatemethod  Unit-6:LOGICFAMILIES  * 1. Various logic families&categoriesaccording tothe ICfabricationprocess   2. CharacteristicsofDigitalICs-Propagation Delay,fan-out,fan-in,PowerDissipation   Noise Margin ,PowerSupplyrequirement&Speedwith Referencetologicfamilies.   * 1. Features,circuitoperation&variousapplicationsofTTL(NAND),CMOS(NAND&NOR) |
|  | 60 | 49 |  |