LESSONPLAN

Department : E&TC	Semester:3rd,Name of Faculty:	
Subject:TH3 **Digital Electronics (DE)**	**No.of days/ week Class allotted: 4**	**Effective From Date:**
		No. ofWeek-15
		Topic to be Covered:

Week	ClassDay	Theory
1st	1st	**UNIT1:BASICSOFDIGITAL ELECTRONICS**
	2nd	**1.1.**NumberSystem-Binary,Octal,Decimal,
	3rd	Hexadecimal-Conversionfromonesystemtoanothernumber system.
	4th	**1.2**ArithmeticOperation-Addition,Subtraction, Multiplication, Division,
2nd	1st	1"s&2"scomplementofBinarynumbers&Subtractionusing complementsmethod.
	2nd	**1.3**DigitalCode&itsapplication&distinguishbetweenweighted& non-weightCode,
	3rd	Binarycodes,excess-3and Gray codes.
	4th	**1.4**Logicgates:AND,OR,NOT,NAND,NOR,Exclusive-OR, Exclusive-NOR—Symbol,
3rd	1st	Function,expression,truthtable&timingdiagram
	2nd	**1.5**UniversalGates&its Realization
	3rd	**1.6**Booleanalgebra,Booleanexpressions,Demorgan"sTheorems.
	4th	**1.7**Represent LogicExpression:SOP& POSforms
4th	1st	**1.8**Karnaughmap(3&4Variables)&Minimizationof logical expressions,don"tcareconditions
	2nd	**1. DoubtClearingclass** **2. Quiz test** **3. Assignment**
	3rd	**UNIT-2:COMBINATIONALLOGICCIRCUITS**
	4th	**2.1**Halfadder,Full adder,
5th	1st	HalfSubtractor,FullSubtractor,
	2nd	SerialandParallelBinary4bit adder.
	3rd	**2.2**Multiplexer(4:1),
	4th	De-multiplexer(1:4),Decoder,Encoder,
6th	1st	Digitalcomparator(3Bit)
	2nd	**2.3**Seven segmentDecoder(Definition,relevance,gatelevelofcircuit Logiccircuit,truthtable,Applicationsofabove).
	3rd	**1. DoubtClearingclass** **2. Quiz test** **3. Assignment**
	4th	**UNIT-3:SEQUENTIALLOGICCIRCUITS**
7th	1st	**3.1**Principleofflip-flopsoperation,its Types,
	2nd	**3.2**SRFlipFlopusingNAND,NORLatch (unclocked)
	3rd	**3.3**C lockedSR,D,JK,T,JKMasterSlaveflip-flops-Symbol,
	4th	logicCircuit,truth tableand applications

8th	1st	**3.4**ConceptofRacingandhowit canbeavoided.
	2nd	**1. DoubtClearingclass** **2. Quiz test** **3. Assignment**
	3rd	**UNIT-4:REGISTERS,MEMORIES&PLD**
	4th	**4.1**ShiftRegisters-Serial inSerial-out,Serial-inParallel-out,
9th	1st	ParallelinserialoutandParallelinparallelout
	2nd	**4.2**Universalshiftregisters-Applications.
	3rd	**4.3**TypesofCounter&applications
	4th	**4.4**Binarycounter,Asynchronousripplecounter(UP&DOWN),
10th	1st	Decadecounter.Synchronouscounter,RingCounter.
	2nd	**4.5**Conceptofmemories-RAM, ROM,
	3rd	staticRAM,dynamicRAM,PSRAM
	4th	**4.6**Basicconcept ofPLD &applications
11th	1st	**1. DoubtClearingclass** **2. Quiz test** **3. Assignment**
	2nd	**UNIT-5: A/DANDD/ACONVERTERS**
	3rd	5.1NecessityofA/D andD/Aconverters.
	4th	**5.2**D/Aconversionusingweightedresistorsmethods.
12th	1st	**5.3**D/AconversionusingR-2Rladder(Weightedresistors)network.
	2nd	**5.4**A/Dconversionusingcounter method.
	3rd	**5.5**A/DconversionusingSuccessiveapproximate method
	4th	**1. DoubtClearingclass** **2. Quiz test** **3. Assignment**
13th	1st	**Unit-6:LOGIC FAMILIES**
	2nd	**6.1**Variouslogicfamilies&categoriesaccordingtothe ICfabrication process
	3rd	**6.2**CharacteristicsofDigitalICs-PropagationDelay,
	4th	fan-out,fan-in,PowerDissipation,
14th	1st	NoiseMargin,PowerSupplyrequirement&SpeedwithReference tologic families.
	2nd	**6.3**Features,circuitoperation&variousapplicationsofTTL(NAND),
	3rd	CMOS(NAND& NOR)

Signature of Faculty

ASIAN SCHOOL OF TECHNOLOGY, KHORDHA