


ACADEMIC LESSON PLAN OF WINTER 2023

Discipline: ETC	Semester: 3 RD Sem (G1)	Name of the Teaching Faculty: R. R. SETH and Smaranika Dalai
Subject: Digital Electronics Lab	No. of days/per week class allotted: 4p(4hr)/week	Semester From: 1 st Aug 2023 to 30 th Nov 2023 No. of Weeks: 17 weeks
Week	Class Day	Practical Topics
1 st	1 st	Introduction
	2 nd	Introduction
2 nd	1 st	EXP-1. Familiarization of Digital Trainer Kit & Digital ICs IE 7400, 7402, 7404, 7408, 7432 & 7486. (draw their pin diagram and features) (cont..)
	2 nd	EXP-1 Familiarization of Digital Trainer Kit & Digital ICs IE 7400, 7402, 7404, 7408, 7432 & 7486. (draw their pin diagram ad features)
3 rd	1 st	EXP-2. Verify truth tables of AND, OR, NOT, NOR, NAND, XOR, XNOR gates using ICs& simplifications of Boolean gates (cont..)
	2 nd	EXP-2. Verify truth tables of AND, OR, NOT, NOR, NAND, XOR, XNOR gates using ICs& simplifications of Boolean gates
4 th	1 st	EXP-3. Implement various gates by using universal properties of NAND & NOR gates verify and truth table tabulate data. (cont..)
	2 nd	EXP-3. Implement various gates by using universal properties of NAND & NOR gates verify and truth table tabulate data.
5 th	1 st	EXP-4. Construct & verify operation of Half adder and Full adder using logic gates... (cont..)
	2 nd	EXP-4. Construct & verify operation of Half adder and Full adder using logic gates..
6 th	1 st	EXP-5. Construct & verify operation of Half Subtractor and Full Subtractor using logic gates. (cont..)
	2 nd	EXP-5. Construct & verify operation of Half Subtractor and Full Subtractor using logic gates.
7 th	1 st	EXP-6. Design & Implement a 4-bit Binary to Gray code converter.. (cont..)
	2 nd	EXP-6. Design & Implement a 4-bit Binary to Gray code converter.
8 th	1 st	EXP-7. Design & Implement a Single bit/ two bit digital comparator circuit (cont..)
	2 nd	EXP-7 Design & Implement a Single bit/ two bit digital comparator circuit
9 th	1 st	EXP-8. Design Multiplexer (4:1) and De-multiplexer (1:4). (cont..)
	2 nd	EXP-8. Design Multiplexer (4:1) and De-multiplexer (1:4).
10 th	1 st	EXP-9. Study the operation of flip-flops (i)S-R flip flop (ii) J-K flip flop (iii) D flip flop (iv) T flip flop (cont..)
	2 nd	EXP-9. Study the operation of flip-flops (i)S-R flip flop (ii) J-K flip flop (iii) D flip flop (iv) T flip flop
11 th	1 st	EXP-10. Realize a 4-bit asynchronous UP/Down Counter. (cont..)
	2 nd	EXP-10. Realize a 4-bit asynchronous UP/Down Counter.
12 th	1 st	EXP-11. Mini Project using Software: To collect data like pin configurations, display devices, Operational characteristics, applications and critical factors etc. on all digital ICs studied in theory and compile a project report throughout and submit at the end of the semester. To assemble and tests circuits using above digital ICs with test points e.g. Digital Clock / Frequency Counter / Running Glow Light upto 999/Solar cell & Opto coupler applications.. (cont..)
	2 nd	EXP-11. Mini Project using Software: To collect data like pin configurations, display devices, Operational characteristics, applications and critical factors etc. on all digital ICs studied in theory and compile a project report throughout and submit at the end of the semester. To assemble and tests circuits using above digital ICs with test points e.g. Digital Clock / Frequency Counter / Running Glow Light upto 999/Solar cell & Opto coupler applications.
13 th	1 st	Lab practice
	2 nd	Lab practice
14 th	1 st	Lab practice
	2 nd	Lab practice
15 th	1 st	Lab practice
	2 nd	Lab practice
16 th	1 st	Sessional
	2 nd	Sessional
17 th	1 st	Sessional
	2 nd	Sessional


01.08.2023

Signature of Teaching Faculty