

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: JYOTI NAIK	Academic Year: 2019-20
Course No.: Th. 3	Course Name: DIGITAL ELECTRONICS
Programme: Diploma	Branch: Electronics & Telecommunication Engg.
Year/Sem: II / III	Section: NA

Sl. No.	Period	Time (min)	Unit	Topic to be Covered	Teaching Method
1.	1.	55	1	Introduction to Digital Electronics	Chalk & Board
2.	2.	55	1	Introduction to various number systems and conversion from one system to another number system	Chalk & Board
3.	3.	55	1	Arithmetic operations of Binary numbers, 1's & 2's compliment form and subtraction using compliment method	Chalk & Board
4.	4.	55	1	Weighted & non-weighted codes- Binary, excess-3 and Gray	Chalk & Board
5.	5.	55	1	Logic Gates – symbol, function, truth table & timing diagram	Chalk & Board
6.	6.	55	1	Concept of Universal gates and realization of various gates using NAND gate	Chalk & Board
7.	7.	55	1	Realization of various gates using NOR gate	Chalk & Board
8.	8.	55	1	Boolean algebra, Boolean expression	Chalk & Board
9.	9.	55	1	Various Boolean laws and De-Morgan's Theorem	Chalk & Board
10.	10.	55	1	SOP and POS representation of Logic Expressions	Chalk & Board
11.	11.	55	1	Karnough Map and related Numerical	Chalk & Board
12.	12.	55	1	Revision of Unit – 1 and solving numerical from the chapter	Chalk & Board
13.	13.	55	2	Introduction to various Combinational logic circuits	Chalk & Board
14.	14.	55	2	Adder- half adder and Full Adder	Chalk & Board
15.	15.	55	2	Subtractor – Half and Full Subtractor	Chalk & Board
16.	16.	55	2	Serial and Parallel Binary 4-bit adder	Chalk & Board
17.	17.	55	2	Multiplexer(4:1)	Chalk & Board
18.	18.	55	2	De-multiplexer (1:4)	Chalk & Board
19.	19.	55	2	Encoder	Chalk & Board
20.	20.	55	2	Priority encoder	Chalk & Board
21.	21.	55	2	3-bit Comparator	Chalk & Board
22.	22.	55	2	Seven segment Decoder	Chalk & Board
23.	23.	55	2	Revision of Unit – 2	Chalk & Board
24.	24.	55	3	Differentiation between Combinational & Sequential Logic circuit	Chalk & Board
25.	25.	55	3	Principle of Latch and Flip-flop and its operation	Chalk & Board
26.	26.	55	3	Types of Flip-flop – SR, JK, D, T	Chalk & Board
27.	27.	55	3	SR Flip-flop using NAND & NOR latch(unclocked)	Chalk & Board
28.	28.	55	3	Clocked SR flip flop	Chalk & Board
29.	29.	55	3	Clocked JK, D and T flip-flop	Chalk & Board
30.	30.	55	3	Circuit diagram, Truth table and logical expression of SR and JK flip-flop	Chalk & Board

31	31.	55	3	Circuit diagram, Truth table and logical expression of D and T flip-flop	Chalk & Board
32	32.	55	3	Concept of Race Around Condition and idea of Master Slave Flip-flop	Chalk & Board
33	33.	55	3	Operation of Master- Slave JK flip-flop	Chalk & Board
34	34.	55	3	Advantages and Disadvantages of Master- Slave JK flip-flop	Chalk & Board
35	35.	55	3	Revision of Unit – 3	Chalk & Board
36	36.	55	4	Shift registers- SISO, SIPO, PISO, PIPO	Chalk & Board
37	37.	55	4	Operations of shift registers	Audio –Visual using Smart Class
38	38.	55	4	Applications of Shift registers	Chalk & Board
39	39.	55	4	Counters and its types and operation of Binary counter, Asynchronous ripple counter	Chalk & Board
40	40.	55	4	Operation of Decade counter, Synchronous counter and Ring counter	Chalk & Board
41	41.	55	4	Concept of memories- RAM, ROM, SRAM, DRAM & PS RAM	Chalk & Board
42	42.	55	4	Concept of PLD and its applications	Chalk & Board
43	43.	55	4	Revision of unit – 4	Chalk & Board
44	44.	55	5	Introduction to A/D & D/A convertors and its need	Chalk & Board
45	45.	55	5	D/A conversion using weighted resistors methods	Chalk & Board
46	46.	55	5	D/A conversion using R-2R ladder network	Chalk & Board
47	47.	55	5	A/D conversion using counter method	Chalk & Board
48	48.	55	5	A/D conversion using Successive approximate method	Chalk & Board
49	49.	55	5	Revision of unit – 5	Chalk & Board
50	50.	55	6	Concept of Integrated circuit and its need in present.	Chalk & Board
51	51.	55	6	IC Fabrication process	Audio –Visual using Smart Class
52	52.	55	6	Description of various steps involved in IC Fabrication process	Audio –Visual using Smart Class
53	53.	55	6	Digital ICs and its characteristics- propagation Delay , Fan-in, fan-out, power dissipation	Chalk & Board
54	54.	55	6	Explaining terms like Noise margin, Power supply requirement and Speed with reference to logic Families	Chalk & Board
55	55.	55	6	Features, Circuit operation & applications of TTL(NAND) logic circuit	Chalk & Board
56	56.	55	6	Features, Circuit operation & applications of CMOS logic circuit using NAND gate	Chalk & Board
57	57.	55	6	Features, Circuit operation & applications of CMOS logic circuit using NOR gate	Chalk & Board
58	58.	55	6	Comparing different logic circuits	Chalk & Board
59	59.	55	6	Revision of Unit – 6	Chalk & Board
60	60.	55	6	Overall revision of the subject	Chalk & Board



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<b>ACADEMIC LESSION PLAN FOR WINTER SEMESTER JULY - 2019</b>	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Academic Year: 2019-20	Name of the Faculty: RAJENDRA DORA
Course name : Circuit and Network Theory	Course No.: Th 2
Branch: ELECTRONICS & TELECOMMUNICATION	Programe: Diploma
Total Period s : 60 P/ Sem	Year/Sem: 2nd/3rd
Examination : 3 Hours	End Semester Exam : 80marks
TOTAL MARKS :100 Marks	Internal Assessment : 20 Marks

Sl. No.	Period	Time (min)	Unit/ Chapter	Topic to be covered	Teaching method
1.	1.	55	1	Introduction, magnetizing force, mmf, and their relation	Black board
2.	2.	55	1	Permeability, reluctance and permeance	Black board
3.	3.	55	1	Analogy between electric and magnetic circuit	Black board
4.	4.	55	1	B-H curve	Black board
5.	5.	55	1	Series and parallel magnetic circuit	Black board
6.	6.	55	1	Hysteresis loop	Black board
7.	7.	55	2	Self inductance and mutual inductance	Black board
8.	8.	55	2	Conductively coupled circuit and mutual inductance	Black board
9.	9.	55	2	Dot convention, coefficient of coupling	Black board
10.	10.	55	2	Series and parallel connection of coupled inductors	Black board
11.	11.	55	2	Numerical problems solving	Black board
12.	12.	55	3	Types of circuit elements	Audio visual smart class
13.	13.	55	3	Mesh analysis	Black board
14.	14.	55	3	Problems solving	Black board



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15.	15.	55	3	Super mesh analysis	Black board
16.	16.	55	3	Node analysis	Black board
17.	17.	55	3	Super node analysis	Audio visual smart class
18.	18.	55	3	Source transformation techniques	Black board
19.	19.	55	3	Numerical problems solving	Black board
20.	20.	55	3	Numerical problems solving	Black board
21.	21.	55	4	Star to delta and delta to star transformation	Black board
22.	22.	55	4	Superposition theorem	Black board
23.	23.	55	4	Thevenins theorem	Black board
24.	24.	55	4	Nortons theorem	Black board
25.	25.	55	4	Maximum power transfer theorem	Black board
26.	26.	55	4	Numerical problems solving	Black board
27.	27.	55	4	Numerical problems solving	Black board
28.	28.	55	4	Numerical problems solving	Black board
29.	29.	55	5	Ac through RL, RC, RLC circuit	Black board
30.	30.	55	5	Ac through RL, RC, RLC circuit	Black board
31.	31.	55	5	Numerical problems solving	Audio visual smart class
32.	32.	55	5	Numerical problems solving	Audio visual smart class
33.	33.	55	5	RLC series circuit	Audio visual smart class
34.	34.	55	5	RLC parallel circuit	Black board
35.	35.	55	5	Power factor, power triangle, active, reactive, apparent power	Black board
36.	36.	55	5	Series resonance, parallel resonance	Black board
37.	37.	55	5	Band width, selectivity, Q factor	Black board
38.	38.	55	5	Numerical problems solving	Black board
39.	39.	55	6	Poly phase system, phase sequence	Black board



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40.	40.	55	6	Relation between phase and line quantity in star and delta system	Black board
41.	41.	55	6	Power equation	Black board
42.	42.	55	6	Measurement of 3 phase power by 2 watt meter method	Audio visual smart class
43.	43.	55	6	Numerical problems solving	Black board
44.	44.	55	7	Steady state and transient response	Black board
45.	45.	55	7	Response to RL, RC, RLC circuit to dc condition	Black board
46.	46.	55	7	Numerical problems solving	Black board
47.	47.	55	7	Numerical problems solving	Black board
48.	48.	55	8	Z parameters, Y parameters	Black board
49.	49.	55	8	ABCD parameters, h parameters	Black board
50.	50.	55	8	Interrelationship of different parameters	Black board
51.	51.	55	8	T and pie representation	Black board
52.	52	55	8	Numerical problems solving	Black board
53.	53	55		Revision of all topics	Black board
54.	54	55		Revision of all topics	Black board
55.	55	55		Numerical problems solving	Black board
56.	56	55		Numerical problems solving	Black board
57.	57	55		Numerical problems solving	Black board
58.	58	55		Numerical problems solving	Black board
59.	59	55		Revision of all topics	Black board
60.	60	55		Revision of all topics	Black board

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: Shisir ku. Naik	Academic Year: 2019-20
Course No.: TH-1	Course Name: Engineering mathematics III
Programe: Diploma	Branch: Electrical and Electronics
Year/Sem: III	Section:

Sl. No.	Period	Time (min)	Unit	Topic to be Covered	Teaching Method
1.	1.	55	1	Real and Imaginary numbers	Blackboard & Chalk
2.	2.	55	1	Complex numbers, conjugate complex numbers, Modulus and Amplitude of a complex number	Blackboard & Chalk
3.	3.	55	1	Geometrical Representation of Complex Numbers	Blackboard & Chalk
4.	4.	55	1	Properties of Complex Numbers	Blackboard & Chalk
5.	5.	55	1	Determination of three cube roots of unity and their properties	Blackboard & Chalk
6.	6.	55	1	De Moivre's theorem and problem solve	Blackboard & Chalk
7.	7.	55	2	<b>Matrices</b> and define rank of matrix	Blackboard & Chalk
8.	8.	55	2	Perform elementary row transformations to determine the rank of a matrix	Blackboard & Chalk
9.	9.	55	2	State Rouché's theorem for consistency of a system of linear equations in n unknowns	Blackboard & Chalk
10.	10.	55	2	Solve equations in three unknowns testing consistency	Blackboard & Chalk

11	11.	55	3	Introduction of linear differential equation	Blackboard & Chalk
12	12.	55	3	Define Homogeneous and Non – Homogeneous Linear Differential Equations with constant coefficients with examples	Blackboard & Chalk
13	13.	55	3	Find general solution of linear Differential Equations in terms of C.F and P.I	Blackboard & Chalk
14	14.	55	3	Derive rules for finding C.F. And P.I. in terms of operator D, excluding.	Blackboard & Chalk
15	15.	55	3	Define partial differential equation (P.D.E) .	Blackboard & Chalk
16	16.	55	3	Form partial differential equations by eliminating arbitrary constants and arbitrary functions.	Blackboard & Chalk
17	17.	55	3	Solve partial differential equations of the form $Pp + Qq = R$	Blackboard & Chalk
18	18.	55	3	Solve problems	Blackboard & Chalk
19	19.	55	4	<b>Laplace Transforms</b>	Blackboard & Chalk
20	20.	55	4	Define Gamma function	Blackboard & Chalk
21	21.	55	4	Define Laplace Transform of a function $f(t)$	Blackboard & Chalk
22	22.	55	4	explain existence conditions of L.T.	Blackboard & Chalk
23	23.	55	4	Explain linear, shifting property of L.T.	Blackboard & Chalk

24	24.	55	4	Derive L.T. of standard functions	Blackboard & Chalk
25	25.	55	4	Inverse Laplace Transform	Blackboard & Chalk
26	26.	55	4	Formulate L.T. of derivatives, integrals	Blackboard & Chalk
27	27.	55	4	Multiplication by $t^n$ and division by $t$	Blackboard & Chalk
28	28.	55	4	Derive formulae of inverse L.T	Blackboard & Chalk
29	29.	55	4	Explain method of partial fractions	Blackboard & Chalk
30	30.	55	5	Introduction of Fourier Series	Blackboard & Chalk
31	31.	55	5	Define periodic function	Blackboard & Chalk
32	32.	55	5	State Dirichlet's condition for the Fourier expansion of a function and its convergence	Blackboard & Chalk
33	33.	55	5	Express periodic function $f(x)$ satisfying Dirichlet's conditions as a Fourier series	Blackboard & Chalk
34	34.	55	5	State Euler's formulae	Blackboard & Chalk
35	35.	55	5	Define Even and Odd functions and find Fourier Series in	Blackboard & Chalk
36	36.	55	5	Obtain F.S of continuous functions	Blackboard & Chalk
37	37.	55	5	functions having points of discontinuity	Blackboard & Chalk



38	38.	55	5	Solve problems of fourier series	Blackboard & Chalk
39	39.	55	6	Introduction of Numerical Methods	Blackboard & Chalk
40	40.	55	6	Appraise limitation of analytical methods of solution of Algebraic Equations.	Blackboard & Chalk
41	41.	55	6	Derive Iterative formula for finding the solutions of Algebraic Equations by (i) Bisection method (ii) New- Raphson method	Blackboard & Chalk
42	42.	55	6	solve problems	Blackboard & Chalk
43	43.	55	7	Introduction of Finite difference and interpolation	Blackboard & Chalk
44	44.	55	7	Explain finite difference and form table of forward and backward difference	Blackboard & Chalk
45	45.	55	7	Define shift Operator(E) and establish relation between(E) & difference operator	Blackboard & Chalk
46	46.	55	7	Derive Newton's forward interpolation	Blackboard & Chalk
47	47.	55	7	backward interpolation formula for equal intervals	Blackboard & Chalk
48	48.	55	7	State Lagrange's interpretation formula for unequal intervals	Blackboard & Chalk
49	49.	55	7	Explain numerical integration	Blackboard & Chalk
50	50.	55	7	State Newton's Cote's Formula	Blackboard & Chalk

51	51.	55	7	Trapezoidal rule.	Blackboard & Chalk
52	52.	55	7	Simpson's 1/3rd rule	Blackboard & Chalk
53	53.	55	7	Solve problems on numerical methods	Blackboard & Chalk
54	54.	55	7	Doubt clear	Blackboard & Chalk
55	55.	55		Some important question solving	Blackboard & Chalk
56	56.	55		Revision of complex number and matrices	Blackboard & Chalk
57	57.	55		Revision of linear differential equation	Blackboard & Chalk
58	58.	55		Revision of Laplace transformation	Blackboard & Chalk
59	59.	55		Revision of numerical method	Blackboard & Chalk
60	60.	55		Doubt class and problem solving	Blackboard & Chalk