

LESSION PLAN

Branch- EEE Sem-4th
 Subject-Electronic devices and circuit-II Subject Teacher-Er.Sangeeta Thakur

S.N.	TOPIC	DATE	HOD SIGN.	REMARKS
1	Sinusoidal Oscillators Working Principle of Oscillator	2/14/2023		
2	Use of positive feedback in amplifier circuit	15-02-2023,16-02-2023		
3	Barkhausen criterion, Difference between Oscillator & Electrical Generator	20-02-2023,21-03-2023		
4	Different Types of Oscillator circuits: Tuned collector	22-02-2023,23-02-2023		
5	Hartley, Colpitts	2/27/2023		
6	Phase shift, Wien Bridge	2/28/2023		
7	Crystal oscillator-Their working principle	3/1/2023		
8	frequency range and applications	2/2/2023		
9	Tuned Voltage Amplifier :- Series and Parallel Resonant Circuits	3/6/2023		
10	Comparison between Series and Parallel resonant Circuits	3/7/2023		
11	Single & Double Tuned Voltage Amplifier Circuits and their frequency response	3/9/2023		
12	Wave Shaping Circuits - Integrating circuits:	3/13/2023		
13	Differentiating circuits: Their working and applications	14-03-2023,15-03-2023		
14	Integrating and differentiating circuits: Their working and applications	15-03-2023,16-03-2023		
15	biased Clipping circuits	20-03-2023,21-03-2023		
16	Clamping circuits	3/22/2023		
17	Multivibrator Circuits - Working principle of Transistor as Switch	3/23/2023		
18	Concept of Multi-vibrator: Astable, Monostable, and Bistable	3/27/2023		
19	Block diagram of IC555 and its working and applications	3/28/2023		
20	Working of IC555 as astable multivibrator	3/29/2023		
21	Working of IC555 as monostable multivibrator	03-04-2023,04-04-2023		
22	Applications of Multivibrator Circuits	04-04-2023,05-04-2023		
23	Operational Amplifiers - Characteristics of an ideal operational amplifier	05-04-2023,06-04-2023		
24	Operational Amplifiers and its block diagram	19-04-2023,20-04-2023		
25	Pin Identification of IC741	24-04-2023,25-04-2023		
26	Definitions: Differential voltage gain, CMRR, slew rate	26-04-2023,27-04-2023		
27	input offset current, input offset voltage, total output offset voltage	4/13/2023		
28	Open loop configurations: Differential, Inverting & Non Inverting modes	17-04-2023,18-04-2023		
29	limitations of open loop configuration.	19-04-2023,20-04-2023		
30	Closed loop configuration: As an Inverting & Non-inverting amplifier	24-04-2023,25-04-2023		
31	Schmitt trigger circuit, Comparator	26-04-2023,27-04-2023		
32	Differentiator and Integrator	01-05-2023,02-05-2023		
33	. Optoelectronic Devices Working principle of Photo-resistor	03-05-2023,04-05-2023		
34	photo diode, photo transistor and their applications	08-05-2023,09-05-2023		
35	Need for Opto-isolation in electronic circuit	10-05-2023,11-05-2023		
36	Working of optocoupler circuit.	15-05-2023,16-05-2023		
37	. Regulated Power Supplies - Working of DC regulated power Supply	17-05-2023,18-05-2023		
38	Line and load side regulation	23-05-2023,24-05-2023		
39	Regulator ICs (78XX, 79XX)	25-05-2023,29-05-2023		
40	Switching Mode Power Supply (SMPS)-Working Principle	30-05-2023,31-05-2023		
41	Advantages & applications	05-06-2023,06-06-2023		

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LESSON PLAN

Branch- EEE

Sem-4th

Subject -Electrical Machine II

Subject Teacher-Er.Diksha Bansal

S.N.	TOPIC	DATE	HOD SIGN.	REMARKS
1	Rotating Machine: Basic Concepts Principle of Energy conversion	2/14/2023		
2	Rotating Electrical Machine: definition of electrical machine, generator & motor	16-02-2023,17-02-2023		
3	Physical concept of torque production: electromagnetic torque	2/20/2023		
4	Reluctance torque and concept of torque angle	21-02-2023,23-02-2023		
5	DC Machines - Constructional features of DC Machine	2/24/2023		
6	Type of windings in DC machine: field and armature windings	27-02-2023,28-02-2023		
7	Armature windings: lap & wave winding,	02-03-2023,03-03-2023		
8	Armature winding terminologies (conductor, turn, coil, coil group, pole pitch, coil s	3/2/2023		
9	Full-pitched coil, shortpitched coil, back & front-pitch)	3/3/2023		
10	Function of the Commutator in Motoring	6-03-2023,7-03-2023		
11	Function of the Commutator in Generating action	3/9/2023		
12	Armature Reaction in DC machine	10-03-2023,13-03-2023		
13	Commutation, cause of sparking	14-03-2023,16-03-2023		
14	Method to improve commutation	17-03-2023,20-03-2023		
15	Power flow diagram of DC Machines	21-03-2023,23-03-23		
16	DC Generator- Working principle of DC generator	3/24/2023		
17	Induced EMF equation & factors determining the EMF of generator	27-03-2023,28-03-2023		
18	Electromagnetic torque equation & factors determining the torque	30-03-2023,31-03-2023		
19	Relationship between generated EMF and generator terminal voltage	03-04-2023,04-04-2023		
20	Types of DC generator: separately excited	4/6/2023		
21	Shunt wound, series wound	07-04-2023,10-04-2023		
22	Compound (differential or cumulative type) generator	11-04-2023,13-04-2023		
23	Necessary conditions to build up induced EMF in a DC shunt generator.	4/14/2023		
24	Operating characteristics of separately excited,	4/17/2023		
25	Shunt, Series and Compound DC generator	18-04-2023,20-04-2023		
26	Losses in DC Generator, Efficiency of DC Generator	4/21/2023		
27	DC Motor - Working principle of DC motor	24-04-2023,25-04-23		
28	Back EMF equation and its significance	4/27/2023		
29	Torque equation of DC motor	4/28/2023		
30	Equivalent Circuit diagram	5/1/2023		
31	Relationship between back EMF and terminal voltage	5/2/2023		
32	Types of DC motors: Series motor	5/4/2023		
33	Shunt motor and Compound motor (differential and cumulative)	05-05-2023,08-05-2023		
34	Need of Starter, 3-point Starter	09-05-2023,		
35	4-point Starter	5/11/2023		
36	Speed control of DC series	5/12/2023		
37	Speed control of shunt motors	5/15/2023		
38	Armature & Field control methods	5/16/2023		
39	Ward Leonard method	5/18/2023		
40	Operating characteristics of DC motors: Shunt	19-05-2023,22-05-2023		
41	Operating characteristics of DC motors: series and compound motor	23-05-2023 to 26-06-2023		
42	Effect of armature resistance on Torque-speed curve	29-05-2023,30-05-2023		
43	Losses in DC motor	6/1/2023		
44	Efficiency of DC motor: Direct method (direct mechanical loading method)	02-06-2023,		
45	Indirect method (Swinburne's method)	05-06-2023,		
46	Regenerative method (Hopkinson's method)	06-06-2023,		
47	Applications and Maintenance of DC Machine -DC generator applications	07-06-2023,		
48	DC motor applications	08-06-2023,		
49	DC Machines (motor & generator) testing and maintenance	09-06-2023,		

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Branch- EEE

Sem-4th

Subject-Electrical & Electronics Measuring Instruments

Subject Teacher-Er.Diksha Bansal

S.N.	TOPIC	DATE	HOD SIGN.	REMARKS
1	Introduction to Electrical Measuring Instruments -Concept of Measurement and Instruments	2/14/2023		
2	Block diagram of generalized measurement Systems	2/16/2023		
3	Measurement Terms: Accuracy, precision	2/20/2023		
4	Linearity sensitivity, reproducibility, dead band, Range	2/21/2023		
5	Types of electrical measuring instruments – indicating	2/23/2023		
6	Integrating and recording type instruments	2/25/2023		
7	Essentials of indicating instruments – deflecting, controlling and damping torque	2/27/2023		
8	Methods of achieving deflecting & controlling torques in analog instruments	2/28/2023		
9	Ammeters and Voltmeters (Moving coil and moving iron type) Concept of Galvanometer	3/2/2023		
10	Ammeter, Voltmeter and difference between them	3/4/2023		
11	Extension of the range of ammeter & voltmeter	3/6/2023		
12	Numerical related to extension of range of meters	3/7/2023		
13	Construction and working principles of moving Iron	3/9/2023		
14	Moving coil instruments	13-03-2023,		
15	Merits and demerits, sources of error and application of these instruments	3/14/2023		
16	Wattmeter (Dynamometer Type) Construction, working principle	3/16/2023		
17	Merits and demerits of dynamometer type wattmeter, sources of error	3/18/2023		
18	Energy Meter (Induction type) Construction, working principle,	3/20/2023		
19	Merits and demerits of single-phase	3/21/2023		
20	three-phase energy meters, numerical problems	3/23/2023		
21	Errors and their compensation	3/25/2023		
22	Construction and working principle of maximum demand indicator	3/27/2023		
23	Measurement of Resistance, Inductance & Capacitance using Bridges	3/28/2023		
24	Principal of Working of Wheatstone Bridge	4/1/2023		
25	Limitations of Wheatstone bridge, Measurement of medium resistance by ammeter	4/3/2023		
26	voltmeter method, Kelvin's double bridge for measurement of low resistance	4/4/2023		
27	A.C. bridges: Maxwell Bridge for Inductance measurement	4/6/2023		
28	Wien Bridge for Capacitance measurement	4/10/2023		
29	Miscellaneous Measuring Instruments Construction working principle	4/11/2023		
30	Earth tester	4/13/2023		
31	Megger (Insulation Resistance tester)	4/17/2023		
32	Frequency meter (dynamometer type)	4/18/2023		
33	Single phase power factor meter (Electrodynamometer type	4/20/2023		
34	Synchroscope	4/24/2023		
35	Clamp-on meter, LCR meter	25-04-2023,		
36	Electronic Instruments - Cathode Ray Oscilloscope: Block diagram	4/27/2023		
37	Working principle of CRO and its various controls. Applications of CRO	5/29/2023		
38	Digital multi-meter (only block diagram) and Applications	5/1/2023		
39	Introduction and block diagram of Digital single phase	5/2/2023		
40	Three phase Energymeters	5/4/2023		
41	Introduction to Intelligent Energy Meter, Load manager	5/6/2023		
42	Transducers & Their Application in Measurement of Non-electrical Quantities	5/8/2023		
43	Introduction and classification of transducers	5/9/2023		
44	Use of Potentiometers in displacement measurement	11-05-2023,		
45	Working principle and applications of LVDT.	15-05-2023,		
46	Pressure sensing devices, measurement of pressure using LVDT	5/16/2023		
47	Bourdon tube arrangement ,Manometer	18-05-2023,		
48	Working principle Strain gauge and its applications in measurements	20-05-2023,		
49	temperature compensation using Strain gauge bridges	23-05-2023,		
50	Measurement of temperature using Thermometers	5/25/2023		
51	Thermocouple ,Resistance temperature detector	5/27/2023		
52	Thermistor , Optical Pyrometer.	5/29/2023		
53	Electromagnetic flow meter for flow measurement	5/30/2023		
54	Liquid level measurement using Floats	6/1/2023		
55	Resistive and Capacitive probes	6/3/2023		
56	Introduction to Smart Sensors	6/6/2023		

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Branch- EEE

Sem-4th

Subject -Electrical Power System I

Subject Teacher-Er.Om prakash

S.N.	TOPIC	DATE	HOD SIGN.	REMARKS
1	Conventional sources of electrical power generation such as coal,	2/14/2023		
2	hydro	2/15/2023		
3	nuclear,	2/17/2023		
4	natural gases and their contribution in power generation in present energy scenario	2/20/2023		
5	Non-conventional sources of electrical power generation such solar	2/21/2023		
6	wind, mini hydro,	2/22/2023		
7	geothermal	2/24/2023		
8	tidal: Their relevance and contribution in power generation in present energy scenario	2/27/2023		
9	Introduction: Hydrology,	2/28/2023		
10	Calculation of power generated in hydro power plant.	3/1/2023		
11	Hydro power plant layout,	3/3/2023		
12	Hydro power plant layout,	3/6/2023		
13	function of each component.	3/7/2023		
14	Selection of site for hydro power plant.	3/10/2023		
15	Classification of hydro power on the basis of water discharge & head available	3/13/2023		
16	Water Turbine:	3/14/2023		
17	Various types of water turbines and their comparison on the basis of head,	3/15/2023		
18	discharge	3/17/2023		
19	speed and direction of water flow	3/20/2023		
20	Merits and demerits of hydro power plant	3/21/2023		
21	Site selection for steam power plant	3/22/2023		
22	Layouts of various sections in steam power plant	3/24/2023		
23	Function of heat exchanger,	3/27/2023		
24	economizer & cooling tower in steam power plant	3/28/2023		
25	Efficiency of steam power plant	3/29/2023		
26	Merits and demerits of steam power plant	3/31/2023		
27	Introduction: Nuclear reaction, nuclear fission & fusion	4/3/2023		
28	Site selection for nuclear power plant	4/4/2023		
29	Layout of nuclear power plant & function of each component	4/5/2023		
30	Nuclear reactor control	4/10/2023		
31	Safety issues and their remedial measures in nuclear power plant	4/11/2023		
32	Merits and demerits of Nuclear Power Plants	4/12/2023		
33	Nuclear Waste Disposal	4/17/2023		
34	Elements of Diesel Power Plant & function of each components	4/18/2023		
35	Merits and demerits of diesel power plant	4/19/2023		
36	Performance and efficiency of diesel power plant	4/21/2023		
37	Applications of diesel power plant	4/24/2023		
38	Fixed and running cost, load estimation,	4/25/2023		
39	load curves, connected load, maximum demand, demand factor,	4/26/2023		
40	diversity factor, Chronological load curve, load duration curve,	4/28/2023		
41	Energy load curve, load factor,	5/1/2023		
42	Capacity factor, utilization factor, numerical problems.	5/2/2023		
43	Classification of Power Plants: Base load,	5/3/2023		
44	peak load and standby power stations,	5/8/2023		
45	stand by capacity in power plants,	5/9/2023		
46	selection of number and size of units for different types of power stations.	5/10/2023		
47	Inter-connection of power stations and its advantages,	5/12/2023		
48	concept of regional and national grid.	5/15/2023		
49	Concept of Tariffs	5/16/2023		
50	Types of Tariff system, Numerical problems related to electricity tariff	5/17/2023		

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Branch- EEE

Sem-4th

Subject-Digital Electronics

Subject Teacher-Er.Sangita Chaudhary

S.N.	TOPIC	DATE	HOD SIGN.	REMARKS
1	Introduction to analog signal,digital signal, difference b/w signals	2/14/2023		
2	Advantages & applications of digital signals	2/16/2023		
3	Number Systems	2/17/2023		
4	conversion of number system	2/20/2023		
5	conversion of number system	2/21/2023		
6	conversion of number system	2/23/2023		
7	Binary arithmetics-addition & subtraction	2/24/2023		
8	Binary arithmetics-multiplication & Division	2/27/2023		
9	1's compliment 2,s compliment,method of subtraction	2/28/2023		
10	concept of codes	3/2/2023		
11	concept of parity	2/3/2023		
12	Logic Gates	3/6/2023		
13	Universal properties of NAND	3/7/2023		
14	Universal properties of NOR	3/9/2023		
15	Boolean Laws	3/10/2023		
16	Boolean Theorems	3/13/2023		
17	Boolean simplification using Laws	3/14/2023		
18	SOP & POS ,kK Map representation	3/16/2023		
19	Minimization of expressions using K Map	17,20,21/03/23		
20	Logic Gates & families	3/23/2023		
21	Half Adder	3/24/2023		
22	Full Adder	3/27/2023		
23	Half Subtractor	3/28/2023		
24	Full Subtractor	3/31/2023		
25	Basic Binary Decoder	4/3/2023		
26	Decimal to BCD Encoder	3/4/2023		
27	4:1 Multiplexer	4/6/2023		
28	8:1 Multiplexer	4/10/2023		
29	1:4 Demultiplexer	4/11/2023		
30	1:8 Demultiplexer	4/13/2023		
31	One bit memory cell,clock signal	4/17/2023		
32	SR Latch,Difference b/w Flip Flop & Latch	4/18/2023		
33	SR Flip Flop	4/20/2023		
34	D Flip Flop	4/21/2023		
35	JK Flip Flop	4/24/2023		
36	T Flip Flop	4/25/2023		
37	Master Slave JK Flip Flop	4/27/2023		
38	Synchronous Counter	28/04 ,08/05/23		
39	ASynchronous Counter	09/05 ,11/05/23		
40	Ring counter	5/12/2023		
41	Concept of Shift Register	5/15/2023		
42	Universal Shift Register	5/16/2023		
43	Applications of Shift Register	18/15/23		
44	Types of Memories	19/05 ,23/05/23		
45	D/A Converter	25/05 ,26/05/23		
46	A/DConverter	29/05 ,30/05/23		
47	Applications of converter	6/2/2023		

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