LESSION PLAN

Branch- EEE **Sem-5th**

Subject - ELECTRICAL MACHINE-III
Subject Teacher-Er.Amit kumar

S.N.	TOPIC	DATE	REMARKS
1	Constructional features of squirrel cage and wound rotor induction	21-08-2023	
2	motors, comparison of cage and wound rotor Induction motors	22-08-2023	
3	Production of rotating magnetic field in a three phase winding	23-08-2023	
4	Principle of operation of induction motor, slip, significance of slip	24-08-2023	
5	Effect of slip on various parameters of rotor circuit: rotor resistance, rotor	26-08-2023	
6	inductance, rotor current, rotor frequency	28-08-2023	
7	Torque developed in 3-phase induction: starting torque, condition for maximum	29-08-2023	
8	torque, running torque and maximum toque	30-08-2023	
9	Torque-slip and torque-speed curve	31-08-2023	
10	Effect of rotor resistance upon torque slip relationship of slip ring induction motor	02-09-2023	
11	Starting of 3-phase induction motors using DOL, Star-delta ,and Autotransformer	04-09-2023	
12	Speed control methods of 3-phase induction motor	05-09-2023	
13	Testing of 3-phase motor on no load and blocked rotor test to find Efficiency	06-09-2023	
14	Effect of induction motors on system power factor	11-09-2023	
15	Double cage rotor induction motor and its applications	12-09-2023	
16	Applications of induction motors	13-09-2023	
17	Synchronous Generator (Alternator)	14-09-2023	
18	Construction Feature of synchronous machine, salient and cylindrical type rotor	16-09-2023	
19	synchronous machine, comparison between salient and cylindrical rotor machine	18-09-2023	
20	Advantages of rotating field system	19-09-2023	
21	Different types of excitation system for synchronous machine: dc excitation	20-09-2023	
22	system, static excitation system and brushless excitation system	21-09-2023	
23	EMF equation of alternator	23-09-2023	
24	Concentrated and distributed windings, Concept of distribution	25-09-2023	
25	factor and coil span factor and pitch factor	26-09-2023	
26	Effect of armature reaction on terminal voltage	27-09-2023	
27	Concept of synchronous reactance and synchronous impedance	28-09-2023	
28	Phasor diagram of alternator on load: resistive, inductive and capacitive load	30-09-2023	
29	Effect of power factor on the terminal voltage of alternator	03-10-2023	
30	Voltage regulation of alternator,	04-10-2023	
31	determination of voltage regulation using	05-10-2023	
32	synchronous impedance method	07-10-2023	
33	Need and necessary conditions for parallel operation of alternators.	09-10-2023	
34	Synchronization of alternators with bus bars using Synchroscope method	10-10-2023	
35	and lamps method.	11-10-2023	
36	Synchronous Motor	12-10-2023	
37	Introduction:	16-10-2023	
38	Construction, operating principle	17-10-2023	
39	Starting methods of synchronous motor	18-10-2023	
40	Equivalent circuit diagram of synchronous motor	21-10-2023	
41	Effect of change in excitation of a synchronous motor,	23-10-2023	
42	V-curve of synchronous motor	25-10-2023	
43	Concept of hunting,	26-10-2023	
44	causes and prevention of hunting in Synchronous Motor	30-10-2023	
45	Application of synchronous motor as synchronous condenser,	31-10-2023	
46	other applications of synchronous motor	01-11-2023	
47	Single Phase Motors	02-11-2023	
48	Production of rotating field in 1-phase induction motor:	04-11-2023	
49	double field revolving theory and cross field theory	06-11-2023	
50	Operating Principle,	07-11-2023	
51	Constructional features and	08-11-2023	
52	Applications of Split–phase,	09-11-2023	
53	capacitor start,	18-11-2023	
54	capacitor-start capacitor-run,	20-11-2023	

55	and Shaded Pole motors	21-11-2023	
56	Reluctance Motor: s	22-11-2023	
57	Construction, working principle & Application	23-11-2023	
58	Hysteresis Motor:	25-11-2023	
59	Construction, working principle & Applications	27-11-2023	
60	Universal Motor:	28-11-2023	
61	Construction, working principle & Applications	29-11-2023	
62	Special Purpose Motors	30-11-2023	
63	Linear Induction Motor &	02-12-2023	
64	Permanent Magnet Brushless DC Motor (Only working	04-12-2023	
65	principle and applications),	05-12-2023	
66	Servo Motor (AC and DC) &	06-12-2023	
67	Stepper Motor (Only working principle	07-12-2023	

LESSION PLAN

Branch- EEE **Sem-5th**

Subject - BASICS OF MANAGEMENT & ENTREPRENEURSHIP DEVELOPEMENT

Subject Teacher-Er.Ajay kumar

S.N.	TOPIC	DATE	REMARKS
1	Definitions and concept of Management	21-08-2023	
2	Functions of management- planning, organizing, staffing,	24-08-2023	
3	coordinating and controlling.	25-08-2023	
4	Various areas of management	26-08-2023	
5	Structure of an Organization	28-08-2023	
6	Self-Management and Development	31-08-2023	
7	Life Long Learning Skills, Concept of Personality Development,	01-09-2023	
8	ethics and moral values	02-09-2023	
9	Concept of Physical Development; Significance of health,	04-09-2023	
10	hygiene, body gestures	08-09-2023	
11	Time Management Concept and its importance	11-09-2023	
12	Intellectual Development: Reading skills,	14-09-2023	
13	speaking, listening skills, writing skills	15-09-2023	
14	(Note taking, rough draft, revision, editing and final drafting), Concept of Critical	16-09-2023	
15	Thinking and Problem Solving (approaches, steps and cases).	18-09-2023	
16	Psychological Management: stress,	21-09-2023	
17	emotions, anxiety and	22-09-2023	
18	techniques to manage these.	23-09-2023	
19	ICT & Presentation skills;	25-09-2023	
20	use of IT tools for good and impressive presentations.	28-09-2023	
21	Team Management	29-09-2023	
22	Concept of Team Dynamics. social and	30-09-2023	
23	Team related skills, managing cultural,	05-10-2023	
24	ethnic diversity in a team.	06-10-2023	
25	Effective group communication and conversations.	07-10-2023	
26	Team building and its various stages like forming,	09-10-2023	
27	storming, norming,	12-10-2023	
28	performing adjourning	13-10-2023	
29	Leadership,	16-10-2023	
30	Qualities of a good leader	19-10-2023	
31	Motivation, Need of Motivation,	20-10-2023	
32	Maslow's theory of Motivation	21-10-2023	
33	Project Management	23-10-2023	
34	Stages of Project Management; initiation, planning, execution, closing and	26-10-2023	
35	review (through case studies), SWOT analysis concept.	27-10-2023	
36	Introduction to Entrepreneurship	30-10-2023	
37	Entrepreneurship, Need of entrepreneurship, and its concept,	02-11-2023	
38	Qualities of a good entrepreneur	03-11-2023	
39	Business ownerships and its features; sole proprietorship, partnership, joint stock	04-11-2023	
40	companies, cooperative, private limited,	06-11-2023	
41	public limited, PPP mode.,Types of industries: micro, small, medium and large	10-11-2023	
42	Entrepreneurial Support System (Features and Roles in Brief)	16-11-2023	
43	District Industry Centers (DICs),	17-11-2023	
44	State Financial Corporations (SFCs), NABARD,	18-11-2023	
45	MSME (Micro, Small, Medium Enterprises) – its objectives & list of schemes	20-11-2023	
46	Market Study and Opportunity Identification	23-11-2023	
47	Types of market study: primary and secondary,	24-11-2023	
48	product or service identification,	25-11-2023	
49	assessment of demand and supply,	30-11-2023	
50	types of survey and their important features	01-12-2023	

51	Project Report Preparation	02-12-2023	
52	Preliminary Report, Techno-Economic Feasibility Report,	04-12-2023	
53	Detailed Project Report	07-12-2023	

LESSION PLAN

Branch- EEE **Sem-5th**

Subject - POWER ELECTRONICS AND CONTROL OF DRIVES **Subject Teacher-Er.Sangita Chauhary**

S.N.	TOPIC	DATE	REMARKS
1	Power Semiconductor Devices	23-08-2023	
2	Advantages of Power Electronics devices based control over conventional control	24-08-2023	
3	Construction, Operation, Symbol of Silicon Controlled Rectifier	25-08-2023	
4	V-I Characteristics of Silicon Controlled Rectifier	26-08-2023	
5	Thyristor Specifications and Ratings: Voltage Ratings, Current Ratings, Power Ratings	31-08-2023	
6	Temperature Ratings. Turn ON &Turn- OFF time	01-09-2023	
7	Thyristor Turn On (Triggering) Methods: Voltage Triggering, Gate Triggering,dv/dt Triggering and Radiation Triggering.	02-09-2023	
8	Thyristor Turn off Process (Commutation techniques)	06-09-2023	
9	Thyristor Turn off Process (Commutation techniques)	08-09-2023	
10	Series and Parallel Connections of SCRs: it's need and criteria	13-09-2023	
11	Heat Sinks- Function/need of Heat Sink, Types of Mountings	14-09-2023	
12	Thyristor Family: Symbols, Construction, Operation & V-I Characteristics of DIAC	15-09-2023	
13	TRIAC, and UJT	16-09-2023	
14	UJT Relaxation Oscillator: Circuit description and Working	20-09-2023	
15	Converters (Controlled Rectifiers)	21-09-2023	
16	Difference between Uncontrolled rectifier & Controlled rectifier	22-09-2023	
17	Single Phase Half Wave Controlled Converter	23-09-2023	
18	With Resistive Load	23-09-2023	
19	With RL Load and Freewheeling Diode	27-09-2023	
20	Single Phase Fully Controlled Full Wave Converter	28-09-2023	
21	With Resistive Load	28-09-2023	
22	With RL Load (with & without freewheeling diode)	29-09-2023	
23	Three Phase Fully Controlled Bridge Converter	30-09-2023	
24	Comparison of 3 phase and 1-PhaseConverters	04-10-2023	
25	Cycloconverters (50 Hz to 25 Hz, 16.33Hz, 12.5Hz): Introduction, classification,	05-10-2023	
26	working principle and applications	06-10-2023	
27	Dual Converters (1-phase & 3-phase): Classification,	07-10-2023	
28	working principle and applications	11-10-2023	
29	Inverters	12-10-2023	
30	Working Principle of Inverter	13-10-2023	
31	Series Inverter	18-10-2023	
32	Operation of Series Inverter Circuit	19-10-2023	
33	Parallel Inverter	20-10-2023	
34	Operation of Parallel Inverter Circuit	21-10-2023	
35	Single Phase Bridge Inverter	25-10-2023	
36	Half Bridge Inverter	26-10-2023	
37	Full Bridge Inverter	27-10-2023	
38	Choppers (DC to DC Converters)	02-11-2023	
39	Working Principle of Chopper, Duty Cycle of Chopper	03-11-2023	
40	Types of Duty Cycle Control	04-11-2023	
41	Constant Frequency System	04-11-2023	
42	Variable Frequency System	08-11-2023	
43	Classification of Choppers	09-11-2023	
44	Class A, Class B, Class C, Class D and Class E:	10-11-2023	
45	Their Circuit description and Working	16-10-2023	
46	Applications of Choppers	17-11-2023	
47	Power Electronic Applications in Control of Drives (	22-11-2023	
48	DC Drives: Speed control of DC motors with Single phase and Three-phase	23-11-2023	
49	controlled converters, Speed Control of DC motors using Chopper circuit.	24-11-2023	
50	AC Drives: Speed control of three-phase Induction Motor with Variable voltage,	25-11-2023	
51	and variable frequency (VVVF Drives) using power electronics devices.	29-11-2023	
52	Other Applications of Power Electronics based Devices	30-11-2023	
53	Automatic Street Light Control using Thyristors	01-12-2023	
54	Battery Charging Control	02-12-2023	
55	Static Excitation System for Alternators	06-12-2023	
56	Static Circuit Breakers (AC & DC)	07-12-2023	

LESSION PLAN

Branch- EEE **Sem-5th**

Subject - ELECTRICAL POWER SYSTEM-II **Subject Teacher-Er.Amit kumar**

S.N.	TOPIC	DATE	REMARKS
1	Electrical Power Supply System	21.8.23	
2	Single line diagram of Electrical Power Supply System	22.8.23	
3	Advantages of high voltage transmission	23.8.23	
4	Various systems of electrical power transmission: DC system, 1-phase AC system,	24.8.23	
5	2-phase ac system, 3-phase AC system	28.8.23	
6	Comparison between AC and DC system for transmission of electrical power	29.8.23	
7	Mechanical Design of Overhead Transmission Line	31.8.23	
8	Types of line supports, ,	4.9.23	
	types of conductors		
	earth wire and their accessories		
9	Insulator, selection of insulator, string efficiency of suspension type insulator	5.9.23	
10	ACSR Conductor, Bundled conductors, Transposition of 3-phase line	6.9.23	
11	Span length, Sag and stress calculation, Stringing chart, Sag template, effects of	11.9.23	
	Stringing chart, Sag template,		
12	effects of wind and ice on Sag (numerical)	12.9.23	
13	Electrical Aspects of Transmission Line	13.9.23	
14	Choice of working voltage for transmission	14.9.23	
15	Economic size of line conductor- Kelvin's law	18.9.23	
16	Inductance of a conductor due to internal flux and external flux	19.9.23	
17	Inductance of a single phase two-wire line and of three phase line	20.9.23	
18	Capacitance of three phase line, charging current due to capacitance	21.9.23	
19	Skin effect, Ferranti effect,	25.9.23	
20	proximity effect in conductors of transmission line	26.9.23	
21	Corona: factor affecting, advantages and disadvantages, corona power losses and	27.9.23	
22	Corona: factor affecting, advantages and disadvantages, corona power losses and	28.9.23	
23	methods to reduce the corona	3.10.23	
24	methods to reduce the corona	4.10.23	
25	Substation and Distribution System	5.10.23	
26	Substation: Indoor and outdoor substations,	9.10.23	
27	Substation: Indoor and outdoor substations,	10.10.23	
28	equipment for substation,	11.10.23	
29	equipment for substation,	12.10.23	
30	auxiliary supply	16.10.23	
31	Distribution Systems: Radial, ring mains and inter-connected	17.10.23	
32	Distribution Systems: Radial, ring mains and inter-connected	18.10.23	
33	Comparison of AC and DC distribution system	19.10.23	
34	Comparison of AC and DC distribution system	23.10.23	
35	Underground Distribution System	25.10.23	
36	Underground Distribution System	26.10.23	
37	Advantages and disadvantages of underground system with respect to overhead system	30.10.23	
38	Advantages and disadvantages of underground system with respect to overhead system	31.10.23	
39	Underground Cables: Types of cables,	2.11.23	
40	construction of cables,	6.11.23	
41	grading of cables	7.11.23	
42	capacitance, ratings	8.11.23	
43	thermal characteristics and applications	9.11.23	
44	Extra High Voltage AC and DC Transmission System	16.11.23	
45	Necessity of EHV Transmission	20.11.23	
46	Limitation of EHV-AC Transmission System	21.11.23	
47	Basic Concepts of HVDC System	22.11.23	
48	Limitation of HVDC Transmission	23.11.23	
49	Comparison between EHV-AC and HV-DC Transmission	28.11.23	
50	Role of Power Factor in Power System	29.11.23	
51	Concept of power factor	30.11.23	
52	Causes and effects of low power factor in power system	4.12.23	
53	Methods to improve power factor: Synchronous condenser, Static capacitor	5.12.23	
54	Methods to improve power factor: Synchronous condenser, Static capacitor	6.12.23	
55	bank and VAr Static Compensators	7.12.23	

LESSION PLAN

Branch- EEE **Sem-5th**

Subject - NON-CONVENTIONAL ENERGY RESOURCES

Subject Teacher-Er.Amit kumar

S.N.	TOPIC	DATE	REMARKS
1	Introduction	21.8.23	
2	Importance of Non-conventional sources of energy, Present energy scenario,	22.8.23	
3	Role of non-conventional or renewable energy sources in present energy scenario.	23.8.23	
4	Principle of conversion of solar radiation into heat, Photo-Voltaic Cell,	24.8.23	
5	Electricity generation using Solar Energy	28.8.23	
6	Applications of Solar Energy: Solar water heaters	29.8.23	
7	Solar Furnaces	31.8.23	
8	Solar cookers	4.9.23	
9	Solar lighting	5.9.23	
10	Solar pumping.	6.9.23	
11	Main elements of small (Mini and Micro) hydro-electric power generation system	11.9.23	
12	Main elements of small (Mini and Micro) hydro-electric power generation system	12.9.23	
13	control requirements in small hydro power plants,	13.9.23	
14	control requirements in small hydro power plants,	14.9.23	
15	advantages of small hydro power plants over large hydro power generation systems	18.9.23	
16	Bio-mass Conversion Technologies: Wet processes.	19.9.23	
17	Bio-mass Conversion Technologies: Dry processes.	20.9.23	
18	Methods for obtaining energy from biomass.	21.9.23	
19	Methods for obtaining energy from biomass	25.9.23	
20	Power generation using biomass gasifier.	26.9.23	
21	Wind Energy Conversion system	27.9.23	
22	Wind Energy Conversion system	28.9.23	
23	Types of wind mills	3.10.23	
24	Types of wind mills	4.10.23	
25	electricity generation using wind mills	5.10.23	
26	electricity generation using wind mills	9.10.23	
27	control mechanism in wind energy conversion system	10.10.23	
28	control mechanism in wind energy conversion system	11.10.23	
29	energy storage systems	12.10.23	
30	energy storage systems	16.10.23	
31	Geo-Thermal Sources	17.10.23	
32	Ocean thermal electric conversion,	18.10.23	
33	Ocean thermal electric conversion,	19.10.23	
34	Ocean thermal electric conversion,	23.10.23	
35	open and closed cycles,	25.10.23	
36	open and closed cycles,	26.10.23	
37	open and closed cycles,	30.10.23	
38	hybrid cycles,	31.10.23	
39	hybrid cycles,	2.11.23	
40	Tidal power basics and schemes of electricity generation using tidal power	6.11.23	
41	Tidal power basics and schemes of electricity generation using tidal power	7.11.23	
42	Magneto Hydro Dynamic (MHD) Power Generation	8.11.23	
43	Magneto Hydro Dynamic (MHD) Power Generation	9.11.23	
44	Magneto Hydro Dynamic (MHD) Power Generation	16.11.23	
45	Magneto Hydro Dynamic (MHD) Power Generation	20.11.23	
46	Principle of working of fuel cell	21.11.23	
47	Principle of working of fuel cell	22.11.23	
48	conversion efficiency	23.11.23	
49	work output	28.11.23	
50	emf of fuel cell	29.11.23	
51	application of fuel cell	30.11.23	
52	Basic working principle of thermo-electric power,	4.12.23	
53	Thermo Electric Power generation	5.12.23	
54	Thermo Electric materials	6.12.23	
55	Application of thermo electric materials	7.12.23	