

LESSON PLAN

Name of Faculty: Mr. Sandeep
Discipline: Civil Engg.
Semester: 6th
Subject: EDM
Lesson Plan Duration: 16 weeks (from Jan, 2018 to April 2018)
Work load (Lecture /Practical) per week (in hours): Lectures—03, Practical—00

Week	Theory		Practical	
	Lecture Day	Topic (Including Assignment/ Test	Practical Day	Topic
1 st	1	Concept /Meaning and Its need	1	
	2	Qualities and Functions of an entrepreneur and Barriers in entrepreneurship		
	3	Sole proprietorship and Partnership forms of business organizations		
2 nd	4	Scheme of assistance by entrepreneurial Support agencies at National State, District Level	2	
	5	Organization: NSIC, NRDC, DC		
	6	MSME, SIDBI, NABARD		
3 rd	7	Commercial Banks,	3	
	8	SFC's, TCO,		
	9	KVIB		
4 th	10	DIC , Technology business incubators	4	
	11	Science and technology entrepreneur parks		
	12	Scanning of the business environment		
5 th	13	Salient features of National & State Indus. Policies	5	
	14	Resultant business opportunities		
	15	Types and Conduct of market survey		
6 th	16	Assessment of demand	6	
	17	Supply in potential area of growth		
	18	Identifying business opportunity		
7 th	19	-do-	7	

	20	Considerations in product selection		
	21	-do-		
8 th	22	Preliminary project report	8	
	23	-do-		
	24	Detailed project report including technical		
9 th	25	Economic and market feasibility	9	
	26	Common errors in project report preparations		
	27	-do-		
10 th	28	Exercises on preparation of project report	10	
	29	-do-		
	30	Definitions and importance of management		
11 th	31	Functions of management: Importance and process of planning, organizing, staffing, directing and controlling	11	
	32	Principles of management, Concept and structure of an organization		
	33	Types of industrial organizations: Line Organization, Line and staff organization and Functional organization		
12 th	34	Definition and Need Qualities and functions of a leader	12	
	35	Manager Vs leader, Types of leadership		
	36	Motivation : Definitions and characteristics, Factors affecting motivation, Theories of motivation (Maslow, Herzberg, Douglas, McGregor)		
13 th	37	Management Scope in Different Areas Human Resource Management, Introduction and objective, Introduction to Man power planning, recruitment and selection	13	
	38	Introduction to performance appraisal methods		
	39	Material and Store Management, Introduction functions, and objectives, ABC Analysis and EOQ		
14 th	40	Marketing and sales, Introduction, importance, and its functions, Physical distribution	14	
	41	Introduction to promotion mix Sales promotion		
	42	Financial Management, Introductions, importance and its functions, Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT		

15 th	43	Customer Relation Management (CRM) Definition and need Types of CRM	15	
	44	Total Quality Management (TQM) Statistical process control Total employees Involvement Just in time (JIT)		
	45	Intellectual Property Right (IPR) Introductions, definition and its importance Infringement related to patents, copy right, trade mark		

Name of the Faculty : Yet To be Assigned
Discipline : (Electrical Engineering)
Semester : 6th
Subject : **PROGRAMMABLE LOGIC CONTROLLERS AND MICROCONTROLLERS**
Lesson plan Duration : 15 weeks(from January, 2018)
Workload per week in hours : Lectures-04, Practicals-04

Week	Theory		Practical	
	Lecture Day	Topic(including assignment test)	Practical Day	Topic
1 st	1	What is PLC, concept of PLC, Building blocks of PLC,	1 st	Components/sub-components of a PLC, Learning functions of different modules of a PLC system
	2	Functions of various blocks		
	3	limitations of relays. Advantages of PLCs over electromagnetic relays	2 nd	Practical steps in programming a PLC (a) using a Hand held programmer (b) using computer interface
	4	revision		
2 nd	5	Differents programming languages,	3 rd	Introduction to step 5 programming language, ladder diagram concepts, instruction list syntax
	6	PLC manufacturer etc.		
	7	Basic operation and principles of PLC		
	8	Architectural details processor	4 th	Basic logic operations, AND, OR, NOT functions
3 rd	9	test	5 th	Logic control systems with time response as applied to clamping operation
	10	Memory structures, I/O structure		
	11	Programming terminal, power supply		
	12	problems	6 th	Sequence control system e.g. in lifting a device for packaging and counting

4 th	13	Basic instructions like latch, master control self holding relays	7 th	Use of PLC for an application(teacher may decide)
	14	Timer instruction like retentive timers, resetting of timers		
	15	Arithmetic Instructions (ADD,SUB,DIV,MUL etc.)		
	16	Counter instructions like up counter, down counter, resetting of counters	8 th	Familiarization with a study of Architecture of 8085 kit, basic sub systems and input output connectors, functions keys on micro controllers kit
5 th	17	MOV instruction	9 th	Familiarization of Micro Controllers (8051) kit
	18	RTC(Real Time Clock Function)		
	19	revision		
	20	test	10 th	Testing of general input/output on Micro controller board
6 th	21	Comparison instructions like equal, not equal, greater, greater than equal, less than, less than equal	11 th	Development of Electrical , Instrumentation applications using 8051 micro-controller
	22	Programming based on basic instructions, timer		
	23	sequencer, and comparison instructions using ladder program		
	24	problems	12 th	problems
7 th	25	Assembly	13 th	test
	26	Packaging		
	27	Process controls		
	28	Car parking	14 th	problems
8 th	29	Doorbell operation	15 th	problems
	30	Traffic light control		
	31	revision		
	32	test	16 th	test
9 th	33	Microwave Oven	17 th	revision

	34	Washing machine		
	35	Motor in forward and reverse direction		
	36	Star-Delta,	18th	revision
10th	37	DOL Starters	19th	revision
	38	Paint Industry		
	39	Filling of Bottles		
	40	Room Automation	20th	revision
11th	41	Micro Controller Series (MCS)-51 Over View	21st	revision
	42	Pin details,I/o Port structure		
	43	revision		
	44	Memory Organisation	22nd	test
12th	45	Special function registers	23rd	revision
	46	Instruction Set Addressing Modes		
	47	Timer operation Serial Port operation Interrupts		
	48	problemsAssembly language programming	24th	test
13th	49	Assemblers and Compilers	25th	revision
	50	Assembler Directives		
	51	Design and Interface		
	52	Examples like: keypad interface, 7- segment interface,	26th	revision
14th	53	LCD, stepper motor	27th	revision
	54	A/D, D/A,		
	55	RTC interface		
	56	Introduction of PIC Micro controllers	28th	test
15th	57	Application of Micro controllers	29th	problems
	58	revision		
	59	revision		
	60	test	30th	problems

Name of the Faculty : Yet To be Assigned
Discipline : (Electrical Engineering)
Semester : 6TH
Subject : ELECTRICAL POWER-II
Lesson plan Duration : 15 weeks(from January, 2018)
Workload per week in hours : Lectures-04, Practicals-02

Week	Theory		Practical	
	Lecture Day	Topic(including assignment test)	Practical Day	Topic
1 st	1	Common type of faults in both overhead and underground systems, symmetrical/ unsymmetrical faults.	1 st	Testing of dielectric strength of transformer oil and air
	2	Single line to ground fault, double line to ground fault,		
	3	3-phase to ground fault open circuit, simple problems relating to fault finding.		
	4	simple problems relating to fault finding.		
2 nd	5	Purpose of protective gear. Difference between switch, isolator and circuit breakers	2 nd	Study of different types of circuit breaker and isolator
	6	test		
	7	Function of isolator and circuit breaker		
	8	Making capacity and breaking capacity of circuit breaker (only definition)		
3 rd	9	Circuit breakers. Types of circuit breakers,	3 rd	Plot the time current characteristics of overcurrent relay
	10	bulk and minimum oil circuit breakers, air SF ₆ circuit breakers		
	11	revision		
	12	Principles of Arc extinction blast circuit breakers in OCB and		

		ACB,		
4 th	13	Constructional features of OCB, ACB, and their working,	4 th	Power measurement by using CTs and PTs
	14	Method of arc extinction		
	15	revision		
	16	Miniature circuit breakers MCB, MCCB, ELCB, for distribution and transmission system (Descriptive)		
5 th	17	Fuses; function of fuse. Types of fuses,	5 th	Earthing of different equipments
	18	HV and LV fuses, rewire-able,		
	19	problems		
	20	cartridge, HRC		
6 th	21	Earthing: purpose of earthing, method of earthing,	6 th	Perform the over load and short circuit test of MCB as per IS specification
	22	Equipment earthing, Substation earthing,		
	23	system earthing as per Indian Electricity rules. Methods of reducing earth resistance.		
	24	test		
7 th	25	problems	7 th	Plot the time current characteristics of kit kat fuse wire
	26	Introduction - types of relays. Electromagnetic and thermal relays, their construction and working		
	27	Induction type over-current, earth fault relays,		
	28	instantaneous over current relay		
8 th	29	Directional over-current, differential relays, their functions	8 th	Taking reading of current on any LT line with clip on meter
	30	Distance relays, their functions		
	31	revision		

	32	Problems		
9 th	33	Idea of static relays and their applications	9 th	revision
	34	Relays for generator protection		
	35	Relays for transformer, protection including Buchholtz relay protection		
	36	Protection of feeders and bus bars, Over current and earth fault protection.		
10 th	37	Distance protection for transmission system	10 th	test
	38	Relays for motor protection		
	39	revision		
	40	test		
11 th	41	Protection of system against over voltages, causes of over voltages, utility of ground wire	11 th	Revision
	42	assignment		
	43	Lightning arrestors, rod gap, horn gap, metal oxide type		
	44	Transmission Line and substation protection against over-voltages and lightning		
12 th	45	revision	12 th	Revision
	46	test		
	47	Transmission Line and substation protection against over-voltages and lightning		
	48	problems		
13 th	49	problems	13 th	problems
	50	Concept of Tariffs		
	51	Block rate		
	52	flat rate,		
14 th	53	maximum demand and two part tariffs	14 th	problems
	54	probems		
	55	revision		
	56	test		
15 th	57	Simple problems	15 th	Test
	58	revision		

	59	revison		
	60	test		

Lesson Plan

Name of Faculty : Yet To Be Assigned
Discipline : Electrical Engg.
Semester : 6th
Subject : UEE
Lesson Plan Duration : 16 weeks(Jan 2018-April 2018)

Work Load (Lecture /Practical) per week in hours : Lecture : 5 Practical

Week	Theory		Practical	
	Lecture Day	Topic (Including assignment/test)	Practical Day	Topic
1st	1	UNIT 1 st Nature of light, visibility spectrum curve of relative sensitivity of human eye and wave length of light		
	2	Luminous flux, solid angle, luminous intensity		
	3	illumination, luminous efficiency, depreciation factor		
	4	coefficient of utilization, space to height ratio		
	5	reflection factor, glare, shadow, lux		
2nd	1	Laws of illumination – simple numericals Different type of lamps, construction and working of incandescent and discharge		
	2	lamps – their characteristics, fittings required for filament lamp, mercury vapour sodium lamp, fluorescent lamp, halogen lamp, neon lamp, compact filament		
	3	lamp(CFL), LED Lamp, comparison of incandescent, fluorescent, CFL & LED Calculation of number of light points for interior illumination		
	4	calculation of illumination at different points, considerations involved in simple design problems.		
	5	Illumination schemes; indoor and outdoor illumination levels		
3rd	1	Main requirements of proper lighting; absence of glare, contrast and shadow		
	2	Awareness about time switches, street lighting, flood lighting, monument lighting and decorative lighting, light characteristics etc.		
	3	UNIT -2 nd Advantages of electrical heating Heating methods:		

		Resistance heating – direct and indirect resistance heating		
	4	electric ovens, their temperature range, properties of resistance heating elements		
	5	domestic water heaters and other heating appliances, thermostat control circuit		
4th	1	Electric arc heating; direct and indirect arc heating, construction, working		
	2	applications of arc furnace Dielectric heating		
	3	applications in various industrial fields Infra-red heating and its applications		
	4	construction and working of two appliances)		
	5	Microwave heating and its applications (construction and working of two appliances)		
5th	1	Solar Heating		
	2	Calculation of resistance heating elements		
	3	UNIT 3 rd Advantages of electric welding Welding method		
	4	Principles of resistance welding		
	5	spot, projection, welding		
6th	1	seam and butt welding		
	2	welding equipment Principle of arc production, electric arc		
	3	characteristics of arc; carbon arc, metal arc, hydrogen arc welding method and their applications		
	4	Power supply requirement. Advantages of using coated electrodes		
	5	comparison between AC and DC arc welding, welding control circuits, welding of aluminum and copper		
7 TH	1	Unit 4 th		
	2	Need of electro-deposition		
	3	Equipment and accessories for electroplating		
	4	Laws of electrolysis		

	5	process of electro-deposition - clearing operation, deposition of metals, polishing and buffing Factors affecting electro-deposition		
8th	1	Principle of galvanizing and its applications		
	2	Principles of anodizing and its applications		
	3	Electroplating of non-conducting materials		
	4	Manufacture of chemicals by electrolytic process		
	5	Power supplies for electroplating		
9th	1	Unit 5th Electrical Circuits used in Refrigeration,		
	2	Air Conditioning		
	3	Water Coolers:		
	4	Principle of air conditioning,		
	5	vapour pressure		
10th	1	refrigeration cycle, eco-friendly refrigerants		
	2	Description of Electrical circuit used for many		
	3	Description of Electrical circuit used Refrigerator		
	4	Description of Electrical circuit used Air-conditioner		
	5	Description of Electrical circuit used Water cooler		
11th	1	Unit 6th Advantages of electric drives		
	2	Characteristics of different mechanical loads		
	3	Types of motors used as electric drive		
	4	Electric braking Plugging		
	5	Rheostatic braking		
12th	1	Regenerative braking		
	2	General idea about the methods of power transfer		
	3	direct coupling by using devices		
	4	belt drive, gears,		

	5	chain drives		
13th	1	selection of motors for different types of domestic loads		
	2	Selection of drive for applications		
	3	general workshop		
	4	textile mill		
	5	paper mill		
14th	1	steel mill, printing press etc.		
	2	crane and lift, Application of flywheel.		
	3	Selection of motors for Domestic Appliances		
	4	Specifications of commonly used motors e.g. squirrel cage motors, slip ring motor		
	5	AC series motors, Fractional kilo Watt(FKW) motors		
15th	1	UNIT 7 th Advantages of electric traction over other types of traction.		
	2	Different systems of electric traction, DC and AC systems, diesel electric system,		
	3	types of services – urban, sub-urban, and main line and their speed-time curves		
	4	Different accessories for track electrification; such as overhead catenary wire, conductor rail system, current collector-pentagraph		
	5	Factors affecting scheduled speed		
16th	1	Electrical block diagram of an electric locomotive with description of various equipment and accessories used.		

	2	Types of motors used for electric traction		
	3	Power supply arrangements Starting and braking of electric locomotives		
	4	Introduction to EMU and metro railways		
	5	Train Lighting Scheme		

(Signature of the teacher concerned with date)