



I	SECTION CODE	EM
II	SECTION NAME	ELECTRICAL MAINTENANCE
III	COURSE CODE	EM-01
IV	COURSE TITLE	INDUSTRIAL MAINTENANCE & SAFETY
V	DURATION	01 Week
IV	OBJECTIVES	
On completion of the course, the learner will be able to understand the different safety norms and able to test the devices as stated in below content.		

VI Course Content :

Theory topics	Practical Topics
Introduction to Electrical Safety, Different Safety Measures.(Human safety, Wiring safety, Circuit safety, Equipment Safety etc.), Calculation Power & Energy, How Prevent Electrical Fatal Accidents, Causes of Electric Fire & their remedies. NFPA and OSHA norms, etc.	a) Testing of different Electrical Safety devices. b) Testing of Earthing points. c) Testing of different electrical fire safety equipment. d) Testing of other electrical Installations to avoid electrical fire and human shock etc. e) Prevention of Electrical Fatal accidents.



I	SECTION CODE	EM
II	SECTION NAME	ELECTRICAL MAINTENANCE
III	COURSE CODE	EM-02
IV	COURSE TITLE	AC/DC MOTOR CONTROLS
V	DURATION	01 Week
IV	OBJECTIVES	
On completion of the course, the learner will be able to understand starters and application of AC/DC motors and able to test the components as stated in below contents.		

VI Course Content :

Theory topics	Practical Topics
Working – Types – Applications of AC 3-phase Motors. Necessity of Starters, different Components of AC motor Starters. Different motor starters. DOL/Forward & Reverse and Star & Delta etc. Working – Types – Applications of AC 1-Phase Motors. Working – Types – Applications of DC Motors. Speed controls of DC Motors. Comparisons of AC & DC motors. AC/DC motor drives and PWM	<ul style="list-style-type: none"> a) Identification of main Parts of AC motors & Testing of Motor terminals. b) Testing of starter components. c) Construction of different starter Circuits with power circuits d) Identification & Testing of motor terminals and Control circuits e) Identification & Testing of DC Motor terminals & Armature f) Testing with Growler. g) DC motor starting methods and Speed control etc.



I	SECTION CODE	EM
II	SECTION NAME	ELECTRICAL MAINTENANCE
III	COURSE CODE	EM-03
IV	COURSE TITLE	RELAYS & PROTECTIVE DEVICES
V	DURATION	01 Week
IV	OBJECTIVES	
On completion of the course, the learner will be able to understand different electrical components and its applications and able to test the different safety devices as mentioned in below content.		

VI Course Content :

Theory topics	Practical Topics
Importance of different Electrical Devices – Types – Applications etc. Importance of different Relays. Relay – Types – Applications. Safety & protective devices for Electric Motors. Safety & Protective devices for Transformers. Safety & Protective devices for other Electrical Installations.	a) Identification & Testing of Different General Electrical Safety & Protective Devices. b) Installation of Electromagnetic Relays c) Installation of Static Relays. d) Installation of Numeric Relay. e) Installation of Other safety & Protective Devices.



I	SECTION CODE	EM
II	SECTION NAME	ELECTRICAL MAINTENANCE
III	COURSE CODE	EM-04
IV	COURSE TITLE	ELECTRICAL PREVENTIVE MAINTENANCE
V	DURATION	01 Week
IV	OBJECTIVES	
On completion of the course, the learner will be able to understand the importance and steps for maintenance of motors and transformers and able to maintain AC /DC motors.		

VI Course Content :

Theory topics	Practical Topics
Importance of Preventive Maintenance, Maintenance of AC Motors, Maintenance of DC Motors, Maintenance of Transformers, Maintenance of other electrical Installations, Maintenance of Electrical Relays and Safety /Protective Devices.	a. Testing of different electrical Components. b. AC Motor Maintenance c. DC Motor Maintenance d. Transformer Maintenance e. General Maintenance etc. 6. Maintenance of Relays and Safety/Protective Devices



I	SECTION CODE	EM
II	SECTION NAME	ELECTRICAL MAINTENANCE
III	COURSE CODE	EM-05
IV	COURSE TITLE	INDUSTRIAL /COMMERCIAL WIRING & CONTROLS
V	DURATION	01 Week
IV	OBJECTIVES	
On completion of the course, the learner will be able to understand the basics of wiring and its controls		

VI Course Content :

Theory topics	Practical Topics
<p>Introduction on Industrial wiring / commercial wiring, Load calculation on designing of industry wiring / commercial wiring, Different types equipment and controls involved in wiring, Protection of the wiring, Designing and preparation of Bill of materials, Maintenance of lighting and wiring controls.</p> <p>Different Safety Measures. (Human safety, Wiring safety, Circuit safety, Equipment Safety etc.)</p>	<p>a) Practice on basic wiring of lighting and its controls</p> <p>b) Practice on motor wiring and its controls</p> <p>c) Practice on Road and garden lighting and its controls</p> <p>d) Practice on substation and its controls wiring</p> <p>e) General maintenance of wirings</p> <p>f) General test procedures related to the motors and batteries and transformers involved in industrial / commercial wiring.</p> <p>g) General installation / test procedures of switching /control devices involved in industrial / commercial wiring.</p>