Course Brochure

Electrical & Electronic Engineering Department, TICI

Course No	**:**	**09**
Course Title	**:**	**Advanced Electrical Maintenance Techniques**
Course Code	**:**	**EE- U340**
Duration	**:**	1 Week
Period	**:**	22 ~ 27 February, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No of Course	**:**	01
No of Participants	**:**	20
Course fee	**:**	Tk. 7,800/- Per Participant.
Designed for	**:**	Junior & mid-level officers working in difference Industries & establishments

Course Objectives:

- To develop technical Knowledge and skill related to electrical maintenance techniques.
- To provide the participant a good understanding of different types of maintenance techniques of electrical machines and control equipment.
- To achieve primary skills to participants will be able to increase operational efficiency and productivity of industrial plants by inspection, trouble-shooting and maintenance.

Course Content:

Different maintenance methods preventive maintenance, inspection & monitoring of switchgear system, Generator, Transformer, motor and other electrical equipment. Hands-on practice on preventive maintenance scheduling & execution. Safety in electrical maintenance.

Training Methodology:

- Class room lecture with multimedia and overhead projector.
- Group Discussion,
- Report preparation and presentation,
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronic Engineering Department
Course Coordinator	**:**	Md. Mahfizul Islam Executive Engineer (Elect.)

Course No	**:**	**13**
Course Title	**:**	**Industrial Motor Control (Level-1)**
Course Code	**:**	**EE-U335**
Duration	**:**	2 Weeks
Period	**:**	07 ~ 19 March, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No of Course	**:**	01
No of Participants	**:**	20
Course fee	**:**	12,300/- Per Participant
Designed for	**:**	Junior & mid-level officers working in different industries and other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and confidence in the field of industrial motor control.
- To develop the ability to recognize major motor control components and explain how they are used in control circuits.
- To develop the ability to wire and troubleshoot motor control components and circuits used in industrial motor control applications using timers, relays, motor starters, push buttons, disconnects and/or selector switches

Course Content:

Introduction to motor control, history of motor control, Electrical tools & instruments, Electrical symbols and electrical diagrams, Logic and sequence diagrams, Magnetism and magnetic solenoids, AC/DC magnetic contactors and motor starters, Timer, time delay and logic, Electrical hazard & safety. Selection of motor control devices, Direct on line (DOL) motor circuits, Reversing motor circuits, Star-delta motor circuit, Reversing star-delta motor circuit, two speed motor circuit, Power distribution for motor control, fuse, breaker and relays for motor control, practice on controls wiring, Preventive maintenance and troubleshooting of motor control circuit.

Training Methodology:

- Class-room lecture with multimedia projector and overhead projector
- Group Discussion
- Report preparation and presentation
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director,
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronic Engineering Department
Course Coordinator	**:**	A.K.M. Arif Hossain Additioanl Chief Engineer (Elect.)

Course No.	**:**	**16**
Course Title	**:**	**Electrical Switchgear & Protective Device: Maintenance &**

Troubleshooting.

Course Code	**:**	**EE - U306**
Duration	**:**	1 Week
Period	**:**	04 ~ 09 April, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No. of Course	**:**	01
No. of Participants	**:**	20
Course fee	**:**	7,800/- Per Participant
Designed for	**:**	Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to electrical sub-station and switchgear.
- To provide the participant a good understanding of the techniques of inspection and maintenance of different parts / components of electrical sub-station.
- To achieve primary skills to participants will be able to installation, testing, commissioning and operation of different types of sub - stations.

Course Content:

Electrical power distribution system requirements. Circuit breakers, Isolator & bus bar, Control & protective devices, Testing & maintenance of power transformer, Current transformer & Potential transformer. Electrical storage batteries, Testing of relays. Testing of high voltage cables & transformer oil. Testing & calibration of control & protective devices. Power factor improvement devices. Shop practice on substation switch gear. Electrical safety.

Training Methodology:

- Class-room lecture
- Factory visit
- Practical & Demonstration class
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronics Engineering Department
Course Coordinator	**:**	Md. Mahfizul Islam Executive Engineer (Elect.)

Course No.	**:**	**23**
Course Title	**:**	**Electrical Power Generation & Power Plant Technology**
Course Code	**:**	**EE - U336**
Duration	**:**	2 Weeks
Period	**:**	05 ~ 16 July, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No. of Course	**:**	01
No. of Participants	**:**	20
Course fee	**:**	12,300/- Per Participant
Designed for	**:**	Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to Electrical Power Generation.
- To provided the participant a good understanding of the techniques of power generating plant installation, operation and maintenance.
- To achieve primary skills to participants will be able to startup, shutdown, maintenance trouble-shooting and over all control of power generating plants.

Course Content:

Introduction to different types of power generating plant and energy resources. Mechanical & electrical features of generators; Excitation system, Prime movers: Diesel Engine, gas turbine & Steam turbine, Lube oil, gas & steam system for turbine, Steam boilers, Operational control & safety devices for prime movers. Control & Protective devices for generator. Voltage & frequency Control of generator. Start-up, Synchronization & loading of generator. Practice on generator operation; Trouble shooting & maintenance. Industrial and electrical safety.

Training Methodology:

- Class-room lecture
- Factory visit
- Practical & Demonstration class
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronics Engineering Department
Course Coordinator	**:**	Md. Ahsanul Huque Executive Engineer (Elect.)

Course No.	**:**	**29**
Course Title	**:**	Starting & Control Technique of Industrial Motor
Course Code	**:**	EE – U121
Duration	**:**	1 Week
Period	**:**	22 ~ 27 August, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No. of Course	**:**	01
No. of Participants	**:**	20
Course fee	**:**	7,800/- Per Participant
Designed for	**:**	Technicians and Operators working in different Industries and other establishment.

Course Objectives:

- To develop the performance to do the job with more skill and confidence in the field of industrial motor.
- To develop the ability to recognize major motor control components and explain how they are used in control circuits.
- To develop the ability to wire and troubleshoot motor control components and circuits used in industrial motor control applications using timers, relays, motor starters, push buttons, disconnects and/or selector switches

Course Content:

Working principle of various industrial motors: Induction, Synchronous, DC, universal motor etc. Constructional feature & operational behavior of various motors. Mechanical, Electrical & magnetic circuit problems & their remedies. Hands-on practice on assembly/ disassembly, start-up, control, protection, troubleshooting & maintenance of different types of motors.

Training Methodology:

- Class-room lecture
- Factory visit
- Practical & Demonstration class
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronics Engineering Department
Course Coordinator	**:**	A.K.M. Arif Hossain Additioanl Chief Engineer (Elect.)

Course No	**:**	**38**
Course Title	**:**	**Electrical Maintenance Techniques**
Course Code	**:**	**EE-U118**
Duration	**:**	1 Week
Period	**:**	26 September ~ 01 October, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No of Course	**:**	01
No of Participants	**:**	20
Course fee	**:**	Tk. 7,800/- Per Participant.
Designed for	**:**	Technicians and Operators working in different Industries and other establishment.

Course Objectives:

- To develop technical Knowledge and skill related to electrical maintenance techniques.
- To provide the participant a good understanding of different types of maintenance techniques of electrical machines and control equipment.
- To achieve primary skills to participants will be able to increase operational efficiency and productivity of industrial plants by inspection, trouble-shooting and maintenance.

Course Content:

Different maintenance methods preventive maintenance, inspection & monitoring of switchgear system, Generator, Transformer, motor and other electrical equipment. Hands-on practice on preventive maintenance scheduling & execution. Electrical safety.

Training Methodology:

- Class-room lecture with multimedia projector and overhead projector
- Group Discussion
- Report preparation and presentation
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronic Engineering Department
Course Coordinator	**:**	Mohammed shajahan Mia Executive Engineer (Elect.)

Course No	**:**	**43**
Course Title	**:**	**Application of AC/DC Drives with PLC for Industrial Motor Control.**
Course Code	**:**	**EE-U341**
Duration	**:**	1 Week
Period	**:**	07 ~ 12 November, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No of Course	**:**	01
No of Participants	**:**	20
Course fee	**:**	7,800/- Per Participant
Designed for	**:**	Junior & mid-level officers working in different industries and other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and confidence in the field of industrial upgrade motor control.
- To develop the ability to recognize major motor control components and explain how they are used in control circuits.
- To develop the ability to wire and troubleshoot motor control components and circuits used in industrial motor control applications using AC/DC Drivers with PLC.

Course Content:

Introduction to motor control, history of motor control, Electrical tools & instruments, Electrical symbols and electrical diagrams, Logic and sequence diagrams, Magnetism and magnetic solenoids, AC/DC magnetic contactors and motor starters, Timer, time delay and logic, Electrical hazard & safety. Selection of motor control devices, Direct on line (DOL) motor circuits, Reversing motor circuits, Star-delta motor circuit, Reversing star-delta motor circuit, two speed motor circuit, Power distribution for motor control, fuse, breaker and relays for motor control, practice on controls wiring, Preventive maintenance and troubleshooting of motor control circuit.

Training Methodology:

- Class-room lecture with multimedia projector and overhead projector
- Group Discussion
- Report preparation and presentation
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director,
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronic Engineering Department
Course Coordinator	**:**	Md. Ahsanul Huque Executive Engineer (Elect.)

Course No.	**:**	**47**
Course Title	**:**	**Electrical Sub-Station & Switchgear: Operation & Maintenance**
Course Code	**:**	**EE – U122**
Duration	**:**	1 Week
Period	**:**	28Nov. ~ 03 December, 2020
Nomination deadline	**:**	1~2 Weeks before commencing date
No. of Course	**:**	01
No. of Participants	**:**	20
Course fee	**:**	7,800/- Per Participant
Designed for	**:**	Technicians and Operators working in different Industries and other establishment.

Course Objectives:

- To develop technical Knowledge and skill related to electrical sub-station and switchgear.
- To provide the participant a good understanding of the techniques of inspection and maintenance of different parts / components of electrical sub-station.
- To achieve primary skills to participants will be able to installation, testing, commissioning and operation of different types of sub - stations.

Course Content:

Electrical power distribution system requirements. Circuit breakers, Isolator & bus bar, Control & protective devices, Testing & maintenance of power transformer, Current transformer & Potential transformer. Electrical storage batteries, Testing of relays. Testing of high voltage cables & transformer oil. Testing & calibration of control & protective devices. Power factor improvement devices. Shop practice on substation switch gear. Electrical safety.

Training Methodology:

- Class-room lecture
- Factory visit
- Practical & Demonstration class
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	**:**	Executive Director
Course Co-Advisor	**:**	Training Director
Course Director	**:**	Head of Electrical & Electronics Engineering Department
Course Coordinator	**:**	A.K.M. Arif Hossain Additioanl Chief Engineer (Elect.)