Instrumentation and Control Engineering Department

TICI, Polash, Narsingdi-1611

Proposed Course Caledar-2020

Up-gradation Courses:

Course No	:	**04**
Course Title	:	**Advanced PLC with SCADA system and its Application in Process Automation and Control**
Course Code	:	**IC-U332**
Duration	:	2 Weeks
Period	:	02 ~ 13 February, 2020
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	18,800/- per participant
Designed for	:	Junior and Mid-level Officers working in different industries and other establishment
Course objectives	:	◆ To develop technical knowledge and skill related to program development and operation of an industrial plant with Advanced PLC and SCADA system. ◆ To give an understanding about Advanced PLC and SCADA system. ◆ Participants will be able to develop programs, graphical interface and trouble-shooting of Advanced PLC and SCADA system.
Course Contents	:	Introduction to Advanced PLC and Control system; Architecture and Functional description of Advanced PLC and Operator station (OS); Programming languages and programming technique; Interface devices and software; PC based system, operator station and SCADA software; Program development practice for different languages; Installation, maintenance and troubleshooting PLC.
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Md. Tushar Hossain, Executive Engineer (Electrical)

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Proposed Course Caledar-2020

Course No	:	**12**
Course Title	:	**Distributed Control system (DCS) in Industries**
Course Code	:	**IC-U334**
Duration	:	2 Weeks
Period	:	07 ~ 19 March, 2020
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	16,000/- per participant
Designed for	:	Junior and Mid-level Officers working in different industries and other establishment
Course objectives	:	◆ To develop technical knowledge and skill related to operation, programming, maintenance and troubleshooting of DCS base plant ◆ To give an understanding about programming and maintenance of DCS ◆ Participants will be able to edit programming, operation and maintenance of DCS controlled plant
Course Contents	:	Brief description of control system, Architecture, hardware and software of DCS, Sensors, transmitters and sequential logic system in industries, Hardware, software and programming on Siemens and Mitsubishi PLC, Hardware and software configuration of Yokogawa PLC, Hands on practice on Logic Designer software, Data communication and networking system for DCS, DCS graphic panel designing using FAST/Tools, Operation of pressure control loop using multi-loop controller, DCS pilot plant operation using Yokogawa PLC, Troubleshooting and maintenance of DCS control system, Comparison between PLC, DCS and SCADA, Operation of a level process station by SCADA (OMRON PLC)
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Md. Tushar Hossain, Executive Engineer (Electrical)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Course No	:	**19**
Course Title	:	**Factory automation using latest PLC with SCADA**
Course Code	:	**IC-U336**
Duration	:	1 Week
Period	:	13 ~ 18 June, 2019
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	9,400/- per participant
Designed for	:	Junior and Mid-level Officers working in different industries and other establishment
Course objectives	:	◆ To develop technical knowledge and skill related to program development and operation of an industrial plant with Advanced PLC with SCADA system. ◆ To give an understanding about Advanced PLC and SCADA system. ◆ Participants will be able to develop programs, graphical interface and trouble-shooting of Advanced PLC and SCADA system.
Course Contents	:	Introduction to Mitsubishi, Allen Bradley and Siemens PLC, Hardware description and programming software of PLC, I/O addressing, Program developing and graphic panel designing using SCADA software, Operation of a level process station by advanced PLC, Troubleshooting & maintenance of PLC.
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Mohammad Nasim Ul, Deputy Chief Engineer (Electrical)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Course No	:	**27**
Course Title	:	**PLC Fundamentals and SMART Instruments**
Course Code	:	**IC-U120**
Duration	:	1 Week
Period	:	18 ~ 23July, 2020
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	9,400/-
Designed for	:	Operators and Technicians working in different industries and other establishments.
Course objectives	:	◆ To develop technical knowledge and skill related to maintenance and operation of industrial plant. ◆ To give an understanding about PLC and programmable instruments. ◆ Participants will be able to develop programs and trouble-shooting of PLC and programmable instruments.
Course Contents	:	Hardware and Software of PLC and Programmable Instruments, Functional description of PLC and programmable instruments, Installation. Programming, maintenance and trouble shooting of PLC and Programmable Instruments.
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Moyazzem Hossain Pk., Addl. Chief Engineer (Mech.)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Course No	:	**32**
Course Title	:	**Application of PLC in Industries**
Course Code	:	**IC-U333**
Duration	:	2 Weeks
Period	:	06 ~ 17 September, 2020
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	16,000/- per participant
Designed for	:	Junior and Mid-level Officers working in different industries and other establishment
Course objectives	:	◆ To develop technical knowledge and skill related to program development and operation of an industrial plant with Advanced PLC with SCADA system. ◆ To give an understanding about Advanced PLC and SCADA system. ◆ Participants will be able to develop programs, graphical interface and trouble-shooting of Advanced PLC and SCADA system.
Course Contents	:	Introduction to Omron, Mitsubishi, Allen Bradley and Siemens PLC, Relay based sequential logic system in industries, Hardware description of different PLC, Programming software of PLC and I/O addressing format, Developing ladder diagram using programming software, Graphic panel designing for touch panel using interfacing software, Graphic panel designing for PC using SCADA software, Operation of a level process station by advanced PLC, Troubleshooting & maintenance of PLC.
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Mohammad Nasim Ul, Deputy Chief Engineer (Electrical)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Course No	:	**39**
Course Title	:	**Programmable Logic Controller (PLC) and Programmable Instruments**
Course Code	:	IC-U320
Duration	:	2 Weeks
Period	:	11 ~ 22 October, 2020
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	20
Course Fee	:	16,000/- per participant
Designed for	:	Junior and Mid-level Officers working in different industries and other establishment
Course objectives	:	◆ To develop technical knowledge and skill related to maintenance and operation of industrial plant ◆ To give an understanding about PLC and programmable instruments ◆ Participants will be able to edit programs and trouble-shooting of PLC and programmable instruments.
Course Contents	:	Hardware and Software of PLC and Programmable Instruments, Functional description of PLC and programmable instruments, Installation. Programming, maintenance and trouble shooting of PLC and Programmable Instruments.
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Md. Tushar Hossain, Executive Engineer (Elect.)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Special Training Courses (For University Students)

Course No	:	**03**
Course Title	:	**Industrial Control Technology on Instrumentation and Electrical Engineering**
Course Code	:	IC-S203
Duration	:	3 Weeks
Period	:	-
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	50
Course Fee	:	6,200/- per student
Designed for	:	4th year students of Electrical and Electronic Engineering Department, IUK, RU
Course objectives	:	◆ To develop technical knowledge and skill related to industrial Technology on Instrumentation and Electrical Engineering ◆ To provide the participant a good understanding of instrumentation and control techniques and electrical machine techniques in process industries ◆ To achieve a good practical knowledge on handling, testing, commissioning and operation of different types instruments and electrical machines.
Course Contents	:	**Instrumentation and Control Technology** Introduction to Process Instrumentation; Instrument symbols and drawings; Sensing and measurement of process variables; Transmitter; Controller & Control Loop; Control Valve; Sequential Logic Operation; Programmable Logic Controller (PLC); Introduction to Advanced PLC; Distributed Control System (DCS); Operation of a Level Process Station by PLC & Process plant, control room Activities , Inspection and Troubleshooting. **Electrical Technology** Electrical safety; Electrical switching & protective devices, Electric circuits & circuit components, symbols; Electrical maintenance tools & tackles; Conductors, Cables, Insulators; Electrical testing & measuring instrument; Transformer; Generators; Starting and control of induction motors; Substation and distribution system & Earthing system and measurement of earthing resistance **Mechanical Engineering** Bearing ; Turbines ; Introduction to Machine Alignment & Vibration Analysis Technique **Industrial Health and Safety** Personal Protective Gears & Fire Protection Arrangement
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Moyazzem Hossain Pk., Addl. Chief Engineer (Mech.)

Instrumentation and Control Engineering Department

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Proposed Course Caledar-2020

Course No	:	**04**
Course Title	:	**Industrial Control Technology on Instrumentation and Electrical Engineering**
Course Code	:	IC-S203
Duration	:	4 Weeks
Period	:	--
Nomination Deadline	:	1-2 weeks before commencing date
No of Participants	:	50
Course Fee	:	8,000/- per student
Designed for	:	4th year students of Electronic and Telecommunication Engineering Department, BSMRSTU
Course objectives	:	◆ To develop technical knowledge and skill related to industrial Technology on Instrumentation and Electrical Engineering ◆ To provide the participant a good understanding of instrumentation and control techniques and electrical machine techniques in process industries ◆ To achieve a good practical knowledge on handling, testing, commissioning and operation of different types instruments and electrical machines.
Course Contents	:	**Instrumentation and Control Technology** Introduction to Process Instrumentation; Instrument symbols and drawings; Sensing and measurement of process variables; Transmitter; Controller & Control Loop; Control Valve; Sequential Logic Operation; Programmable Logic Controller (PLC); Introduction to Advanced PLC; Distributed Control System (DCS); Vibration Data Acquisition and Monitoring Technique; Operation of a Level Process Station by PLC & Process Plant, Control Room Activities , Inspection and Troubleshooting **Electrical Technology** Electrical safety; Electrical switching & protective devices, Electric circuits & circuit components, symbols; Electrical maintenance tools & tackles; Conductors, Cables, Insulators; Electrical testing & measuring instrument; Transformer; Generators; Starting and control of induction motors; Substation and distribution system & Earthing system and measurement of earthing resistance **Mechanical Engineering** Bearing; Turbines; Introduction to Machine Alignment & Vibration Analysis Technique **Industrial Health and Safety** Personal Protective Gears & Fire Protection Arrangement
Training Methodology	:	◆ Class-room lecture ◆ Group discussion ◆ Hands on practice with PLC and programmable instruments ◆ Case study on real/pilot plant problem
Evaluation System	:	Attendance, class participation and evaluation
Course Advisor	:	Executive Director
Course Co-Advisor	:	Training Director
Course Director	:	Head of Instrumentation and Control Engineering Department
Course Coordinator	:	Md. Tushar Hossain, Assistant Engineer (Elect.)