

**Raj Kumar Goel Institute of Technology,
Ghaziabad, Uttar Pradesh, INDIA**

Department of Electrical and Electronics Engineering

Complete Module Training Program for Students

ABB Industrial Automation Centre

Now a days almost all manufacturing industries are proceeding for automation to survive in globally competitive market to increase productivity and improve quality of products. This increases the demand of trained engineers in the field of industrial automation. In order to meet the demand of modern automated industries in terms of skilled technocrats and well trained engineers, **Department of Electrical and Electronics Engineering** has established a **Centre of Excellence, ABB Industrial Automation in B-Block Basement Room no BB-03/1.**

The main aim of this Centre is to bridge the gap between the requirement of modern industries and knowledge of our graduates. This will also enhance the worth of institution in terms of providing summer training, increase in placement and interaction with industrialist.

In this regard the Centre is going to organize a Complete Module Training Programme for students. So you are requested to motivate the students to join **complete training program** to enhance their technical skill as well as placement opportunity.

Details of Training:

Duration: 3-Months

Batch I: Starting from 2nd week of June, just after end of University Examination

Batch II: Starting from 1st week of July

Course Contents: Attached

Contact Person:

1. Mr. Tej Prakash Gupta - Sr. Trainee Coordinator at Rhythm Automation Control pvt. Ltd. Mobile No. 8130506644, Email - Training@rhythmautomation.com
2. Mr. Yashpal Singh – Manager at Rhythm Automation Control pvt. Ltd. Mobile No. 9958444794, Email – Yashpal@rhythmautomation.com

Note: Students will be provided industrial summer training certificate.

**Prof. (Dr.) J.G Yadav
HOD EN**

Industrial Automation Engineer Training Course (100% JOB ORIENTED TRAINING)



1. PLC
2. SCADA
3. HMI /MMI
4. MOTOR DRIVES(AC/DC)
5. SWITCH GEAR
6. PANEL DESIGNING
7. SOLAR AUTOMATION & REMOTE MONITORING
8. POWER ELECTRONIC
9. INSTRUMENTATION
10. POWER MANAGEMENT
11. NETWORKING
12. DCS

PLC (Programmable Logic Controller)

- Basic electronic
- History of PLC, introduction of PLC
- Application of PLC
- H/W overview of PLC
- Memory of PLC
- PLC wiring(Sourcing & Sinking)
- Introduction to PLC programming software
- Creating new project & addressing
- programming with Ladder logic & other language
- Basic programming instruction
- Advance programming instruction
- Uploading /Downloading/Monitoring
- Force I/O
- Faultfinding and troubleshooting
- Communication with SCADA Software
- Hands on experience on real time application

SACADA (Supervisory Control and Data Acquisition)

- Introduction to SCADA software
- Creating new project
- Understanding Tags & License Packaging
- Understanding P&ID
- Understanding Graphics Properties (filling, coloring, movement, visibility, object sizing etc)
- Using library of objects
- Real Time & Historical Trends
- Alarms & Events
- Recipe management
- Application of Scripts
- Communication with PLC
- Communication with EXCEL
- Net DDE, OPC Communication
- Faultfinding and troubleshooting

HMI (Human Machine Interface)

- Introduction to HMI
- programming and designing to HMI with software
- Creating new project
- Uploading / Downloading application editing
- Creating Alarms & event
- Communication with plc

MOTOR DRIVES (AC/DC)

- Basic electrical
- Basic of motors (AC/DC)
- Motor starter DOL, RDOL, STAR DELTA, Auto Transformer, Soft Starter
- Introduction to AC and DC Drives
- Application of drives & selection
- Programming Parameters of Drives
- Wiring & Commencing of Drives live panel
- Communication with PLC & SCADA

SPECIAL TRAINING ON LOW VOLTAGE SWITCH GEAR

- Power contactors, Air circuit breakers, MCB, MCCB
- Control relays, Switch fuse units, HRC FUSES semiconductor , Overload relays, Motor protection circuit breakers (MPCB)
- BUS BAR
- Terminal blocks

PANEL DESIGNING

- Electrical symbols and accessories used in panel designing
- Industrial standards and color coding
- Introduction to switch gear and selection
- Both types Wiring of panel control and power
- Sizing of bus bar, contactor ..etc
- Testing of panel
- Cables and wire
- Maintenance and troubleshoot on live panel

SOLAR AUTOMATION & REMOTE MONITORING

POWER ELECTRONICS

- Thyristors
- IGBTs
- Diodes
- SCR
- Rectifier
- Inverters

INDUSTRIAL INSTRUMENTATION

- Various type of transmitter sensors/transducer used in plant
- Temperature measurement (RTD, THERMOCAPLE)
- Working principal types selection and guideline
- Flow measurement types selection and guideline
- Level measurement type selection and guideline
- Pressure measurement type selection and guideline
- Different types of valves (solenoid valves , control valves ,....etc)
- PID controller

POWER MANAGEMENT

- Basic of power Generation, Ac Generators, Power Quality.
- Harmonics, Power Factors & correction

INDUSTRIAL NETWORKING

- Industrial protocols DF-1,DH485,TCP I/P ETHERNET , MODBUS,PROFIBUS RS232,RS485,RS422,control net, device net etc
- With PLC and SCADA

DCS (Distributed and Control System)

- Introduction to DCS
- Difference between plc and DCS
- Selection of DCS
- programming of DCS
- Application of DCS
- Architecture of DCS

- CUSTOMIZE TRAINING
- SOFT SCALE DEVELOP & INTERVIEW PREPARATION
- SUMMER/WINTER/PROJECT/ INDUSTRIAL TRAINING ON SITE

WE MAKE EVEN THE BEST ENGINEERS BETTER

Please feel free to call for any further information.
Looking forward to serve you in the near future.

Thanks & Best Regards

TEJ PRAKASH GUPTA

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Rhythm Automation is fully committed to the conservation and improvement of the environment and the reduction of negative environmental impacts, arising from our daily activities. Please think before you print