

Industry Collaboration

Activity 01:

Department of Electrical Engineering has been established a “**Industrial Automation excellence centre**” in collaboration with **M/s. Smart controls Pvt Ltd**, Gwalior on 17th January 2021.

In AICTE, a flexible curriculum scheme department is running an elective course on “Industrial Automation” for UG III Year students. In this course the students will learn different types of Programmable Logic Controllers (PLC), network protocols, ladder logic programming and integration of sensors & loads with the PLC.

It is important to expose students and provide hands on experience in the area of automation which will make them an Industry ready professional. In addition to the this, the students will also improve their practical skills, by designing and testing prototype models for any desired industrial operational setup, once the Industrial Automation Lab is established.

After working on the set-ups in the proposed automation lab, the students will be able to write ladder logic programs for PLCs, run and troubleshoot various set ups & experiments in the area of automation.

Industrial Automation Excellence Centre



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A group of faculty members had visited **M/s. Smart controls Pvt Ltd** on **12 February 2020**. Mr. Vijay Singh Bagel, Senior Technical Engineer has demonstrated the live PLC panels of SEIMENS in their industry and trained faculty members for establishment of excellence centre.



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Technical persons demonstrated the PLC panels*

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After carrying out extensive research with members of M/s Smarts Control India Ltd and for the best utilization of the fund for the lab, the committee purchased following items from open tender process.

Items	Item name	Brief Description
01	Industrial PLC Trainer (Siemens Make) (Master Unit)	Table top application trainer fitted with Siemens PLC. Various static panel can be connected in the central slot. Able to communicate with STEP 7 ladder logic programmer to perform experiments
02	Rotary Transfer Unit (Connected with master unit)	Table Top Unit: Dispensing motor to drop onto 8 pegs on turn table rings loaded in two holding tubes holders, needs 2 O/Ps @24VDC from controller to dispense ring from either of the holding tube.
03	Conveyor Belt (Connected with master unit)	Table Top Unit: Fitted with No. of spring return double acting cylinders, 1 no. of defused reflective sensors & one No. of inductive proximity sensor to detect presence, & height of transported metal objects (cylinders), 3 beans to segregate these cylinders, as per their physical property
04	Lift Elevator (Connected with master unit)	Table top model of 4 floor elevator with colourful floor overlay and 3 sides covered in transparent perplex sheets for easy viewing. Each floor has front panel consisting of motorized sliding door with limit switch to indicate door closed position, door open audio and LED indication/illumination, auto/manual door closing/opening with end limit switches, 2 numbers of door close/open push buttons for manual operation
05	Water Level Control (Connected with master unit)	Water Level Control using Float type sensor, 500 mm calibrated acrylic water tank, water pump, manual flow valve mounted on compact light weight (530 x 910 mm) table top panel
06	SCADA Software (Connected with master unit)	SCADA software development suite supplied on installable CD. Supports 25 tags, with USB hardware lock provided, 19 projects for 19 SAPs P4/XP needed. Interfaces with PLC through RS232C comport.

Utility of Proposed Lab

- 1. Students will do minor and major projects and test low prototype models.**
- 2. The Department will be able to organize a summer Internship twice in a year (June and December) based on experiments performed in the proposed setup.**
- 3. The Department will be able to organize hands on workshop on Industrial Automation for students, faculty and industry personnel.**
- 4. Later on, department may offer paid professional development courses of one week for Industry personnel and also for faculty members. (other than MITS)**

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Activity 02:

Er.. Ashutosh Chincholikar , **CEO and Managing Director, M/s. Smart Controls India Ltd**, Gwalior has guided few group of students of final year in order to develop the prototype panel of Industrial Automation



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Activity 03

Er.. Ashutosh Chincholikar , CEO and Managing Director, M/s. Smart Controls India Ltd, Gwalior has given expert talk on “Industry 4.0” in one day online National Workshop on Robotics and Industrial Automation held on 20th June 2020 organized by the department of Electrical Engineering, MITS, Gwalior

One Day Online National Workshop On Robotics & Industrial Automation Under TEQIP-III (20th June 2020)



Organized by
Department Of Electrical Engineering
Madhav Institute of Technology
& Science, Gwalior (M.P.)

(A Govt. Aided UGC Autonomous & NAAC Accredited
Institute affiliated to R.G.P.V., Bhopal, M.P.)

www.mitsgwalior.in

ABOUT WORKSHOP

With the adoption of Industrial Automation and Robotics, present day industries are progressing rapidly. In such scenario, it is utmost necessary for our students to get exposed to the latest trends followed in various industries to make them industry ready. In addition, Hands on training session on PLC ladder programming using Automation Studio is also included in the workshop.

Objectives-

This online workshop is being proposed to impart fundamental understanding of the Robotics and Automation and aims to train the participants to apply it in practical situations. This event will enable the participants to understand the needs of various skills required in Robotic and Automation applications in real life.

Outcomes- After attending this workshop, the participants will be able to

- Understand the basics of Robotics and Automation in context of using Robotic products
- Have knowledge of the process configurations and their realization in a given robot
- Use effectively a Robot by applying related software and programming
- Attain the skills required to become a Robotic and Automation Expert

ORGANIZING COMMITTEE

Patron

Er. Ramesh Agrawal Secretary,
Scindia Engineering College
Society

Chairman

Dr. R.K. Pandit Director

ADVISORY COMMITTEE

Dr. Manjaree Pandit Dean Academics
Dr. Laxmi Srivastava HOD, EED

COORDINATORS

Dr. Vijay Bhuria Assistant Professor, EED
Prof. Praveen Bansal Assistant Professor, EED
Prof. Manoj Kumar Assistant Professor, EED

ELIGIBILITY

Faculty from AICTE approved Engineering institutions/
Research Scholars/ Industry Persons/UG & PG Students

ABOUT THE INSTITUTE

Madhav Institute of Technology & Science, Gwalior was established in 1957 by His Highness Late Sir Jiwaji Rao Scindia, Maharaja, of the erstwhile state of Gwalior.

The foundation stone of the Institute was laid by Late Dr. Rajendra Prasad, on 20th October, 1956 and the building was inaugurated by Late Dr. S. Radha krishnan on 11th December, 1964. The president of India, Dr. Pratibha Devi singh Patil graced the Golden Jubilee Celebrations of the Institute as Chief Guest on 30th June, 2008.

The Institute has a campus of around 45 acres. The Institute offers each ducation in eleven undergraduate programmes and twenty one PG programmes. The prime objective of the Institute is to provide quality technical education at undergraduate and postgraduate levels. Recently the Institute is also funded by World Bank under TEQIP-III to strengthen the quality of technical education.

RESOURCE PERSONS

1. **Dr. S. K. Saha**
Professor, Mechanical Engineering Department,
IIT Delhi ,
2. **Dr. Rajeevlochana G Chittawadigi**
Asst. Professor, Dept. of Mech Engg., Amrita School of
Engg (Amrita Vishwa Vidyapeetham University),
Bangalore
3. **Er. Ashutosh Chincholikar**
CEO and MD, M/S. Smart Controls India Ltd,
Gwalior

FOR REGISTRATION & CONTACT

For Registration: <https://forms.gle/oDAK51RY8QoS1QDK6>

Last Date of Registration: 5 June 2020

Note: e-certificates will be issued to all participants after successful completion of course and assessment test.

For more information contact to:

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Prof. Manoj Kumar 7017460853

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