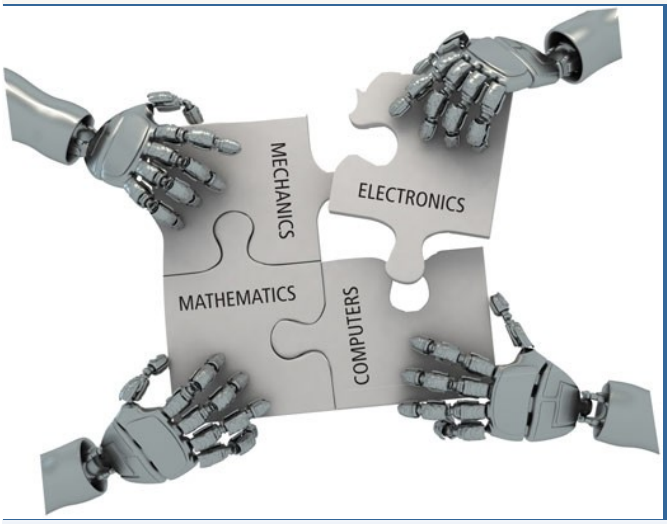
BHARTIA VIDYA BHAVAN'S

SARDAR PATEL COLLEGE OF ENGINEERING

(An autonomous institution affiliated to University of Mumbai)

Mechanical Engineering Department of SPCE

Organizes Eight Day Short Term Training Programme (STTP) on



MECHATRONICS: CONCEPT TO COMMISSIONING

13th June– 21st June 2016

Under Technical Education Quality Improvement Program (TEQIP) in collaboration with Christiani Sharpline Technical Training Pvt. Ltd.

	Organizing Body
Dr. P. H. Sawant	Principal
Dr. M. M. Murudi	Vice Principal
Dr. Rajesh Buktar	Head of Mechanical Engineering Department
Dr. Kiran S. Bhole	Coordinator
Prof. Sachin Vankar	Co-Coordinator
Prof. Sharad Valvi	Co-Coordinator

Collaborative Body

Christiani Sharpline
EXCELLENCE IN TECHNICAL TRAINING

ADDRESS FOR CORRESPONDENCE :
BHARTIYA VIDYA BHAVAN'S SARDAR PATEL COLLEGE OF ENGINEERING, MECHANICAL ENGG DEPARTMENT
BHAVAN'S CAMPUS, MUNSHI NAGAR, J.P.ROAD , ANDHERI(W), MUMBAI 400 058
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SARDAR PATEL COLLEGE OF ENGINEERING

Sardar Patel College of Engineering (SPCE) under the management of the Bhartiya Vidya Bhavan, was founded by Kulapati Dr. K. M. Munshi. It was established to meet the growing demand for engineering talent.

The foundation stone of the college was laid on 17th September 1961 by Shri. Y. B. Chavan (the then Chief Minister of Maharashtra who later became the Defence Minister of India.)

The college was inaugurated by the first Prime Minister of Independent India, Pandit Jawaharlal Nehru in 1962.The college is dedicated to Sardar Vallabhbhai Patel, an eminent nation builder of independent India.

The college is autonomous and affiliated to the University of Mumbai for the full-time degree, post graduate, and research programs. The institute has set high standards for aspiring engineering students and also meets the need of quality education in the challenging world of business.

Over the last 50 years the college has gained an excellent reputation in the field of Technical Education.

SPCE is one of the few colleges that have received Grade 'A+' rating for its aided programs from the Govt. of Maharashtra which certifies the spirit of excellence that the institute has symbolized and always practiced. Institute celebrated its golden jubilee in the year 2012.

Christiani Sharpline Technical Training Pvt. Ltd.

Christiani Sharpline Technical Training Pvt. Ltd. is a 50:50 joint venture between Christiani of Germany and Sharpline Automation of India. Christiani, with its 80 years presence in vocational didactic training, is best known in Germany an all over the world for its state-of-the-art technical training products and vocational training methods.

Sharpline Automation, part of the Sharpline group of companies and a 13 year old company, has a national presence and expertise in the field of machine tool retrofitting and automation. Today it has 200 satisfied customers and 900 machines and equipments automated with CNC/PLC interface. The Sharpline group is diversifying also in the field of CNC machine tool manufacturing in collaboration with Asquith Butler, component manufacturing for the automobile, oil and aerospace industries.

Christiani is regarded as one of the most important providers of training products. International groups like Siemens, Bosch, BIBB, Volkswagen and Audi have faith in Christiani to deliver a high level of quality in skill development and training.

WHO SHOULD ATTEND THE COURSE

This course is useful for engineers of different disciplines aspiring towards understanding concepts of Mechatronics systems and its development for various applications ranging from automobile, biomedical etc. The course will be most beneficial for:

- ◊ Engineering graduates and post-graduates (B.E./B. Tech./M.E./M. Tech. in Mechanical, Production, Automobile, Aerospace, Electrical, Electronics, Chemical, Bio-medical Engineering)
- ◊ Professionals in Design, Manufacturing industry
- ◊ Faculty members from academic and research institutions
- ◊ Final year B.E. students who are aspiring for higher education

ABOUT "MECHATRONICS: CONCEPT TO COMMISSIONING" PROGRAMME

Why the course on Mechatronics?

Mechatronics is a fusion of mechanical, electrical, computer and control engineering. In order to compete successfully in a global market, modern manufacturing companies must have the ability to integrate electronics, control, software and mechanical engineering into a range of innovative products and systems. For these reasons knowledge of mechatronics system is inevitable . This short term course would enable participants to understand and implement various mechatronics system design concepts. Unique part of this course is blend of theory and hands on mechatronics system in technical training institute.

Objectives

Following objectives are defined for the course

- Understanding of the architecture of the Mechatronics system design
- Study on broad spectrum the characteristics of the mechanical and electrical actuators and their selection for mechatronic systems.
- Development of process plan and templates for design of mechatronic systems
- Commissioning of the concepts in development of the mechatronics systems

Scope

Mechatronics cover a wide range of application areas including consumer product design, instrumentation, manufacturing methods, computer integration and process and device control. Due to fast growing field of digital technology at lower cost the use of mechtronics systems has become common. Considering wide area of application, the program ingredient also consist of utility of mechatronics in home, factory and office automation.

Significance

This program will provide more insight to the participants for using/developing/researching Mechatronics system in their respective organizations for several innovative practical solutions.

COURSE FEE, ACCOMODATION CHARGES AND TRAINING VENUES

Registration Fee				Accommodation Charges (per day) per person	
Student	Faculty (Non-TEQIP colleges)	Faculty (TEQIP colleges)	Industry / Sponsored	Twin shared a/c room	Students' hostel room (2-3 person sharing)
Rs. 3,000	Rs. 5,000	Rs. 10,000	Rs. 20,000	Rs. 2,500	Rs. 500

In this program six days of the training is schedule at Christiani Sharpline Technical Technical Training Pvt. Ltd. at Digha Navi Mumbai and two days of the training is schedule at Sardar Patel College of Engineering, Andheri, Mumbai.
The registration fees includes Course Material, Media DVD and Breakfast/Tea-snacks/Working Lunch. Participant shall make their own travel arrangements to reach at the training venue.
Registration fee should be paid in the form of cheque/DD drawn in the favor of "The Principal, SPCE". ***Cheque/DD shall be inclusive of accommodation charges.***

CONTACT DETAILS FOR MORE INFORMATION

CONTACT	EMAIL	MOBILE
Dr. Rajesh Buktar (HOD, Mechanical Engineering Department)	r_buktar@spce.ac.in	9930385101
Dr. Kiran S. Bhole (Faculty, Mechanical Engineering Department)	Kiran_bhole@spce.ac.in	9869378873

Note: *For form submission, fill the attached form and send the scanned copy to* ***kiran_bhole@spce.ac.in***

TRAINING SCHEDULE AND COURSE CONTENTS

DAY	CONTENTS	OUTCOMES
DAY 1	• Introduction to Mechatronics • Developing Block diagram for complex Mechatronics system • Mechanical components in a system • Objective inspection of Model machine	• Modeling of the Mechatronics System • Selection of appropriate component for the mechatronics system
DAY 2	• Developing Assembly plan for Model machine • Mechanical assembly of model machine sub assembly	• Synthesis and characterization of the mechatronics system
DAY 3	• Pneumatic Components in Mechatronics Systems • Developing Displacement step diagram for analysis of Pneumatic circuits • Hands on Pneumatic systems	• Development of pneumatic circuit for automation • Selection of appropriate pneumatic component in automation
DAY 4	• Electrical components (sensors & actuators) in Mechatronics system • Interpretation of E-Plan drawings & developing wiring layout for model machine • Electrical Wiring & Testing of Model machine	• Selection of sensor and actuator for mechtronic system • Interfacing of the sensor and actuator with mechatronics system
DAY 5	• Introduction to PLC, Benefits & Applications • Working of PLC. Program execution • Hardware configuration and online communication with programming device	• Communication of input and output devices with PLC
DAY 6	• Programming concept in LAD/FBD/STL • Programming instructions & practical applications	• Development of algorithm for applications
DAY 7	• Developing Functional flowchart for Model Machine • Developing PLC logic for Model Machine	• Development of PLC programs for applications
DAY 8	• I/O Testing of Model Machine using PLC • Commissioning & Testing of Model Machine	• Indigenously design and development of the mechatronics system

PATRONS

Dr. Sesha Iyer	Chairman, BOG- Sardar Patel College of Engineering
Dr. P. H. Sawant	Principal, Sardar Patel College of Engineering

BHARATIYA VIDYA BHAVAN'S

SARDAR PATEL COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)

Department of Mechanical Engineering

Bhavan's Campus, Andheri (West), Mumbai, 400 058 Maharashtra.

Ph: 91-22-26232192, 91-22-26289777, Fax: 91-22-2623 7819

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Registration Form

Application for the registration to the Program/ Workshop (√ Tick the check box):

- ☐ Digital manufacturing using DELMIA in collaboration with TATA TECHNOLOGIES Pune (23rd May to 28th May 2016).
- ☐ Pressure Equipment Design & Piping Engineering in collaboration with AKER Solutions Mumbai. (30th May to 10th June 2016).
- ☐ Mechatronics: Concept to Commissioning in collaboration with Christiani & Sharpline Mumbai. (13th June to 21st June 2016).
- ☐ Workshop on Internet of Things in collaboration with KRATOS Engg. & IT Solutions 6th May 2016.

Name (in Block Letter): (Mr./Mrs./Ms./Dr)_____

Designation: _____

Educational Qualification:_____Experience:_____

Organization: _____

_____

Mailing Address: _____

_____

Telephone: Office: _____Residence:_____Mobile:_____

Email: _____

DD No. and date: _____

Registration fees (amount in Rs):_____

Accommodation required: YES / NO

Signature of Candidate: _____

Seal and Signature of Sponsoring Authority