MECHATRONICS SYSTEM DESIGN

Year:2019-20

Event Description:

This Mechatronics System Design webinar was organized on the year of 2019-20, By Centurion University of Technology and Management**.**

Pre-requisites: Nil
Course Type : Audit (Workshop)
Duration : 30 Hours

Course Objectives

- Understand key elements of Mechatronics system.
- Understand principles of sensors, its characteristics, interfacing with controller.
- Understand and develop the concept of PLC system and its ladder programming, and significance of PLC systems in industrial application.

Learning Outcomes:

- Identification of key elements of Mechatronics system and its representation in terms of block diagram or circuitry.
- Understanding the concept of signal processing and use of interfacing systems such as Pneumatics system and PLC control

- Interfacing of Sensors, Actuators using appropriate controller.
- Development of PLC ladder programming and implementation of real life system.

Module	Contents	Duration
Module1	• Identification and familiarization of the following components: resistors, inductors, capacitors, diodes, transistors, LED's, transformer, function generator, multimeter, power supply. • Practice To instruct students about application of different electrical & electronics components and measuring devices. Practice to be done by students on using of different electrical and electronics components and measuring device like volt meter, ammeter and multimeter.	10 hours
Module2	• Pneumatics and Electro-pneumatics. • Practice: To discuss about the fundamentals of Pneumatics & Electro-Pneumatics trainer kit • Practice: Understanding pneumatics, Pneumatics symbols and circuit drawings. • Practice: Perform a set of Experiments using the trainer kit and components with the help of circuit diagram.	10 hours
Module3	• PLC and Interfacing of Input /output • Practice Demonstration of basic PLC, contacts, coils, timers and counters; motor drivers, Variable Frequency Drives and solenoid valves. • Practice Demonstration of PLC programs using contacts, coils ,timers and counters. • Practice Designing different logics using PLC programming. • Practice Interfacing different input and output components with PLC, like different sensors, motors and actuators.	10 hours
	TOTAL	**30 hours**

Anita Patra

Dr. Anita Patra, Registrar, CUTM

Convenor

REPORT ON MECHATRONICS SYSTEM DESIGN

Total number of participants: 52

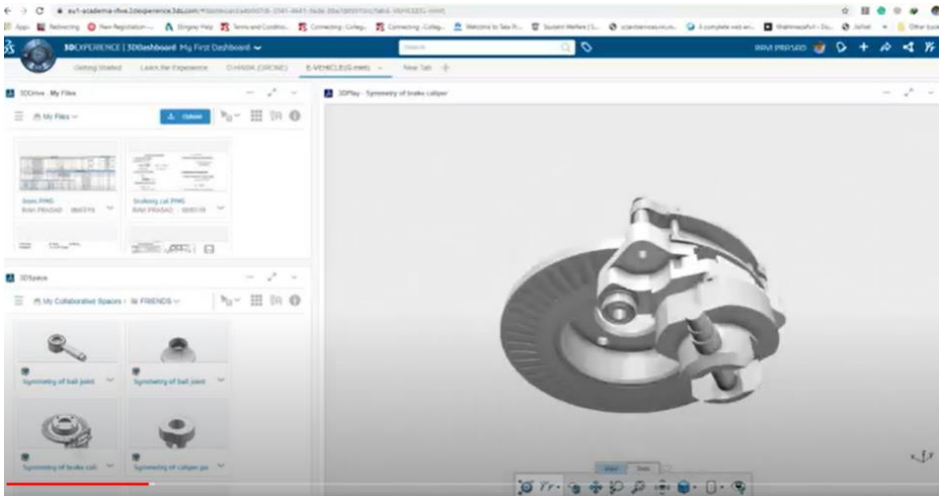
Academic year: 2018-19

Date:12.08.2019

The programme aimed to find out the key elements of Mechatronics system and understand principles of sensors, its characteristics, interfacing with controllers. Furthermore, the programme focused on understanding and developing the concept of PLC system and its ladder programming, and significance of PLC systems in industrial application. Identification of key elements of Mechatronics system and its representation in terms of block diagram or circuitry was also part of discussion in the programme.

Mechatronic system design deals with the design of controlled motion systems by the integration of functional elements from a multitude of disciplines. It starts with thinking how the required function can be realised by the combination of different subsystems according to a Systems Engineering approach (V-model).

The program tried to make the participants understand the concept of signal processing and use of interfacing systems such as Pneumatics system and PLC control. Interfacing of Sensors, Actuators using appropriate controllers were discussed extensively in a few sessions. Furthermore, development of PLC ladder programming and implementation of real-life systems were the focus of the programme.



Demonstration on principles of sensors on 12.08.2019

Through this programme participants have got a clear idea that a long terms process of advanced mechatronics systems is to provide a “toolbox” where mechanical structures, transducers, control functions /algorithms, embedded systems can be modelled, synthesized, and analysed in the integrated process.

Dr. Anita Patra, Registrar, CUTM

Convenor

List of Participants

Name of Event: Mechatronics System Design

Organized by: Centurion University of Technology and Management

Date: 12 August 2019

Event Description:

This Mechatronics System Design webinar was organized in the year of 2019, By Centurion University of Technology and Management**.**

List of Participants:

S.No.	Name	Reg. No.	Presence/Absent
1	MEESALA UDAYA BHASKAR	190101160002	Present
2	AMIT KUMAR RAJAK	190101160001	Present
3	POTNURU ABHIRAM MANI	190101160007	Present
4	ALOK KUMAR SAHU	190101160003	Present
5	TADELA DURGA PRASAD	190101160005	Present
6	K.JAI KISHAN	190101160004	Present
7	GOJJA KARTHIK	190101160006	Present
8	KURA RAKESH	190101160009	Present
9	M.ANIL KUMAR	190101160008	Present
10	GOURI PRASAD PATNAIK	190101160010	Present
11	PYAE PHYO MG	190101160011	Absent
12	SASANAMU PAVAN KUMAR	190101160012	Present
13	DUMPADA SANTOSH KUMAR	not registered	Present
14	MD.JASIM KHAN	190101160016	Present
15	MOHAMMAD ASHRAF	190101160017	Present
16	SHAMSH TABREZ	190101160015	Present
17	RAHUL KUMAR GUPTA	190101160014	Present
18	AMAN KUMAR	190101160018	Present
19	KAMALKISHOR KUMAR	190101160020	Present
20	VISHAL KUMAR	190101160019	Present
21	SATYENDRA KUMAR	190101160021	Present
22	AMIT KUMAR GUPTA	190101160025	Present
23	AMIT KUMAR SAH	190101160023	Present
24	AMAN KUMAR SAH	190101160024	Present
25	RAMBABU RAM	190101160022	Present
26	RAMJEE YADAV	190101160029	Absent
27	RAKESH KUMAR MODI	190101160027	Present
28	ADITYA KUMAR	190101160030	Present

29	MD.SHAHBAJ	190101160013	Present
30	SHAFI ALAM	190101160028	Present
31	RAJ RANJAN	190101160026	Present
32	SURAJ KUMAR	190101160031	Present
33	MD.SHAMIM	190101160036	Present
34	SRIKANT KUMAR	190101160032	Absent
35	SUNNY KUMAR	190101160035	Present
36	SAJAN KUMAR	190101160034	Present
37	SATRUDHAN KUMAR	190101000000	Present
38	MD SAMIULLAH	190101160037	Present
39	ADARSH KUMAR	190101160038	Present
40	MITHILESH KUMAR	190101160039	Present
41	TATENDA SAMOYO	190101160044	Present
42	HEMANT KUMAR YADAV	190101000000	Present
43	NISHANT KUMAR	190101160040	Present
44	SAURAV KUMAR YADAV	190101160042	Present
45	OSAM KUMAR THAKUR	190101160043	Present
46	CHHOTU KUMAR	190101160046	Present
47	KUNDAN KUMAR BHARTI	190101160047	Present
48	ABHISHEK KUMAR	190101160045	Present
49	RAJNISH KUMAR	190101160051	Present
50	KANHAIYA KUMAR	190101160048	Present
51	SURAJ KUMAR PANDEY	190101160049	Present
52	RAJKUMAR THAKUR	190101160050	Present

Dr. Anita Patra, Registrar, CUTM

Convenor