

Webinar Event

Title: Industrial IoT Application

Date: May 30, 2020

**Organized by: Computer Science and Engineering Department, ITS
Engineering College, Greater Noida**

Time: 10: 00 AM- 11:00 AM

Centre of Excellence: SYSCOM

Platform: Zoom

Objective: The main objective of this webinar isto provide the conceptual knowledge on IoT.


Report:

A Webinar on "Industrial IoT Applications" was conducted by the Syscom Centre of Excellence, Department of Computer Science and Engineering, ITS Engineering College on May 30, 2020.


The speaker Mr. KartikRastogi, Assistant Professor, Deptt. Of CSE and Coordinator Syscom COE explained key industrial IOT applications such as autonomous vehicle, power management, quality control and wearables. The webinar started with important of Inter of things in industry and its wide variety of applications including home automation, industry smart city and many more. The key components used in designing an IOT platform were also discussed. Later an overview of development environment like Arduino Uno, Raspberry Pi and associated IDE was give.

The webinar was organized for the 2nd and 3rd year students of CSE. The HOD-CSE congratulated the Syscom COE coordinator for taking such an initiative and making students aware about its importance and applications.

Program Outcome: The participants have gained extensive details of subject knowledge along with practical knowledge. Practical examples enrich their concept on IoT.


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5.1.3 → ICT/Computing skills



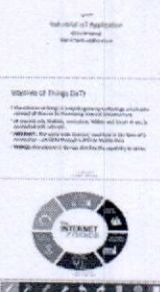
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Live Webinar Glimpses

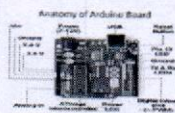
Webinar on Internet of Things
Held on 30th May, 2020 at 10 AM



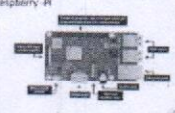
SPEAKER
Mr. Kartik Rastogi
(Asst. Professor CSE Dept.)



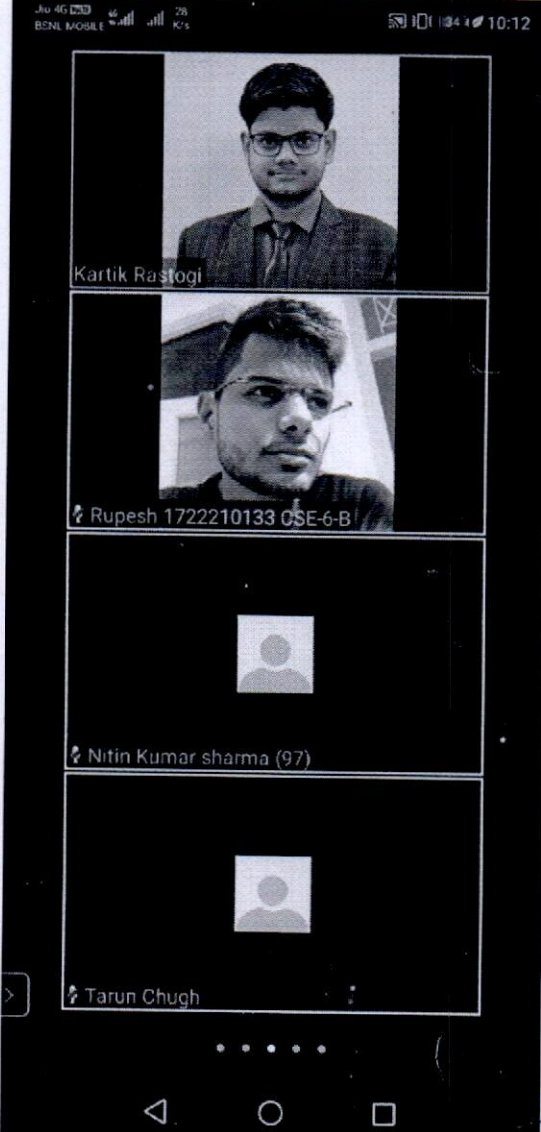
Internet of Things (IoT)
A network of devices that are connected to the Internet and can communicate with each other.



Anatomy of Arduino Board

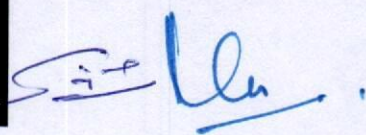


Raspberry Pi



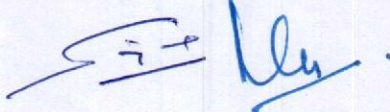
Zoom Meeting Screenshot showing participants:

- Kartik Rastogi
- Rupesh 1722210133 CSE-6-B
- Nitin Kumar sharma (97)
- Tarun Chugh



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S.N O	ROLLNO	NAME	SECTION
1	1722210061	BIKI PRASAD	A
2	1722210126	RAVI KUMAR VERMA	A
3	1722210067	GUSAIN SUBHAM	A
4	1722210149	SHAHIL KUMAR PRAJAPATI	A
5	1722210065	DEEPANSHU MISHRA	A
6	1722210078	JYOTI	B
7	1722210043	ANSHI SINGH	B
8	1722210090	MD AZHARUDDIN ANSARI	B
9	1722210138	SAIF QURAISHI	B
10	1722210025	AMANDEEP PRAJAPATI	B
11	1722210100	NEERAJ CHAUHAN	B
12	1722210146	SATYAM MANI TRIPATHI	B
13	1722210168	SUBODH KUMAR CHAUHAN	B
14	1722210122	RAHUL PRASAD	B
15	1722210119	PURNIMA	B
16	1622210033	ASHWANI SHARMA	C
17	1722210072	ISHIKA RANJAN	C
18	1722210063	CHAS CHACKO	C
19	1722210124	RAJESH KUMAR	C
20	1722210022	AMAN KASHYAP	C
21	1722210110	PAYSHVI GHODWALL	C
22	1722210060	BHAWANA GARG	C
23	1722210167	SRIPARNA MANDAL	C
24	1722210086	LOVEE SAXENA	C
25	1722210054	ASHIUTOSH SHARMA	C
26	1722210052	ASHISH KUMAR	C


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Name of Event: Virtual Automation Based Online Summer Internship Program

Date of Event: 15st May to 30th June 2020,

Organized by: ECE Department at NI Innovation Center.

Event Coordinator: Mr. Nitesh Pradhan.

Objective: 45 days Virtual Automation Based Online Summer Internship Program .

Report: The Department of Electronics and Communication Engineering of I.T.S Engineering College, Greater Noida, organized 45 days Virtual Automation Based Online Summer Internship Program. This Internship Program was coordinated and conducted by Mr. Nitesh Pradhan (Coordinator of NI Innovation Center) 15st May to 30th June 2020, . The program was based on LabVIEW, Multisim, myDAQ, my Rio and other toolkits of National instruments. There were **20 students** from **ITS Engg College Greater Noida**.

Outcomes:

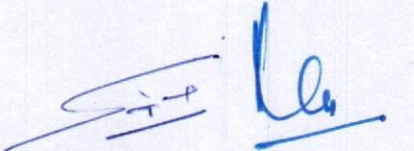
- Participants learn about LabVIEW and Arduino Simulink Software with mydaq, myRio and Acquire knowledge.
- Designed more than 1000 program during internship.
- Designed various simulated projects and real time project
- Students completed CLAD exam-based question bank series. That is very helpful for CLAD exam.
- Two student cleared CLAD exam
 1. Ashish Kumar 2nd year ECE
 2. Sameer 3rd year ECE

Scope of Improvement:

- More advance Level workshop/ Internship Program can be organized every year

No. of Students attended: 22


Trainer & Coordinators
(Nitesh Pradhan)


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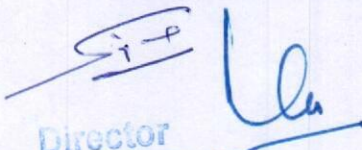


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List of students

S.no.	Name of Student	Mail Id
1	MITHILESH KUMAR	mithileshkumarlr_ece17@its.edu.in
2	Apurav Gupta	apurav9818@gmail.com
3	Aashish Singh	aashishsinghjs_ece17@its.edu.in
4	Yashraj Jaiswal	yashraj.jaiswal10@gmail.com
5	ALAN JACOB	alancoursesonly@gmail.com
6	Uday Sharma	udaysharmaniit12345@gmail.com
7	Pavan Kumar	pavankumarr_ece17@its.edu.in
8	Ameya Vikrama	ameyavikrama777@gmail.com
9	Suraj kumar gupta	surajkumar1379gupta@gmail.com
10	Bhanu Pratap Singh	bpsingh0440@gmail.com
11	Ankit Kumar Srivastava	Ankitkr.srivastavavks_ece17@its.edu.in
12	Nishant Kumar	nishantkumarss_ece17@its.edu.in
13	KAUSHIK SARKAR	Kaushiksarkar938@gmail.com
14	Raghav Saxena	raghavsaxena91@gmail.com
15	Pooja kumari	Poojakumarijd_cse17@its.edu.in
16	Syed Saleem Mushtaq Ahmed Khadri	ssmakhadra@gmail.com
17	Ravi bhushan	ravibhusharp_ece17@its.edu.in
18	Pankaj Singh	pankajsinghrs_ece17@its.edu.in
19	Prashant kumar rai	Prashantkrrairr_ece17@its.edu.in
20	Mohd Faizan Siddiqui	mohdfaizansiddiquiaa_cse17@its.edu.in
21	Ashish Kumar	ashishkuma09@gmail.com
22	Sameer	sameern_ece17@its.edu.in


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Work Report

Name of Event: Two Days Online Short Term Training Program on "PLC & SCADA"

Date of Event May 14-15, 2020.

Organized by: Rockwell Automation- Centre of Excellence, EEE Department, I.T.S Engineering College Greater Noida

Event Coordinator: Mr. Rajiv Ranjan

Objective:

- To sharpen the skill of students & faculty members in the field of PLC & SCADA.

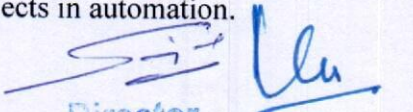
Report:

Rockwell Automation- Centre of Excellence, Department of Electrical & Electronics Engineering, I.T.S. Engineering College organized Two Days **Online Short Term Training Program on "PLC & SCADA" on May 14-15, 2020** which was attended by 38 students and 7 faculty members. The event was started by welcome to Industry **Expert - Er. Manish Dubey, Automation Expert, Sofcon India Pvt. Ltd.** by Prof. Upendra K. Agarwal, HOD, EEE department, I.T. S. Engineering College, Greater Noida.

On the first day, Mr. Dubey explained about programmable logic controller (PLC) or programmable controller. PLC controller is an industrial digital computer which has been ruggedized and adapted for the control of manufacturing processes, such as assembly lines, or robotic devices, or any activity that requires high reliability, ease of programming and process fault diagnosis. He explained the Basic concepts of Relay, Switches and Digital Circuits, PLC Hardware Components, PLC Programming, RLL and process control. He guided and motivated the students by sharing his experiences with students.

On the second day, Mr. Dubey provided online training on Supervisory control and data acquisition (SCADA). SCADA is a control system architecture comprising computers, networked data communications and graphical user interfaces (GUI) for high-level process supervisory management, while also comprising other peripheral devices like programmable logic controllers (PLC) and discrete proportional-integral-derivative (PID) controllers to interface with process plant or machinery. The use of SCADA has been considered also for management and operations of project-driven-process in construction. Students learnt about Memory Tag, Animation Dialog Box, PLC & SCADA Interface and Human Machine Interface.

This training was very helpful to the students for making PLC-SCADA based project and faculty members who are guiding the student's projects in automation.


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Finally, Mr. Rajiv Ranjan, Assistant Professor of EEE Department, ITS Engineering College, gave a Vote of Thanks to our Guest and participants..

Program Outcome:

Students & Faculty members upgraded their knowledge in the field of PLC, SCADA & HMI

Scope of Improvement: To organize the workshop for long duration.

No. of participants: 38 students and 7 faculty members.

Coordinator:

(Rajiv Ranjan)

Asst. Prof.

EEE Dept.

The banner features the ITS Engineering College logo on the left, the Rockwell Automation logo in the center, and a box on the right identifying the trainer as Mr. Manish Dubey. Below the logos, the text reads 'Online Short Term Training Program on PLC & SCADA' followed by the dates '14th-15th May, 2020 | 10:00 AM - 11:00 AM'. It also states the program is organized by Rockwell Automation, Centre of Excellence (COE) in the Department of Electrical and Electronics Engineering. The bottom of the banner contains social media links for the college's website and various platforms.

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Rockwell Automation

Trainer

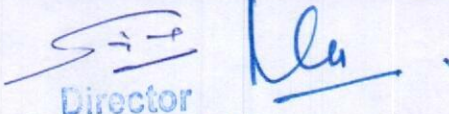
Mr. Manish Dubey
Automation Expert,
Sofcon India Pvt. Ltd.

Online Short Term Training Program
on
PLC & SCADA

14th-15th May, 2020 | 10:00 AM - 11:00 AM

Organised by
Rockwell Automation, Centre of Excellence (COE)
Department of Electrical and Electronics Engineering

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Name of Event:

2DaysHardware Integration with SensorsOnline Workshop

Date of Event:

4th& 5th April 2020

Organized by:

ECE Department at NI Innovation Center, COE.

Event Coordinator:

Mr. Nitesh Pradhan

Objective:

2 DaysOnline Workshop onHardware Integration with SensorsUsing NI myRIO and Sensor kit for2nd&3rdyear ECEstudent to learn about function of RIO and FPGA Based Programming

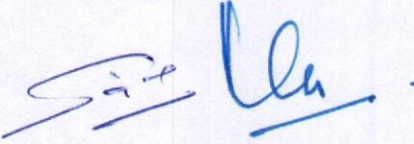
Report:The Department of Electronics and Communication Engineering of I.T.S Engineering college, Greater Noida, organized 2 daysonline workshop on NI my RIOby Mr. Nitesh Pradhan (Certified LabVIEW Trainer) at NI Innovation Center, Center of Excellence on4th & 5th April 2020. The workshop was based on NI myRIO, mechatronics kit & Sensor kit. Student work on standalone RIO, and learn how to designing, developing, and prototyping a real-time (RT) application that handles communication between the RT target and a host computer using the LabVIEW Real-Time Module. After attending this course, you will be able to determine if an RT solution is appropriate for a given problem. There were 18 students attended the Workshop from ECE Department.

Outcomes:

After attending this course, participant able to:

- Design Embedded platform.
- Convert and Write FPGA target-based code;
- If student will practicemore they will get the job in this filed

**Coordinators
(Nitesh Pradhan)**

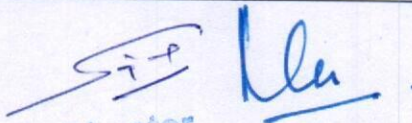

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No. of Student attended: 18

S. No.	Participant name	Year
1	MITHILESH KUMAR	3rd year
2	ALAN JACOB	3rd year
3	Pavan Kumar	3rd year
4	Pankaj Singh	3rd year
5	KAUSHIK SARKAR	3rd year
6	Nishant Kumar	3rd year
7	Tanuj Saini	4th year
8	Yashraj Jaiswal	3rd year
9	NAMAN GARG	2nd Year
10	NIKITA PANDEY	2nd Year
11	OM GUPTA	2nd Year
12	PRABHAKAR	2nd Year
13	UDAY SHARMA	3rd year
14	VIKAS KUMAR	4th year
15	SWEETA PAL SINGH	2nd Year
16	MOHD ASHRAF	2nd Year

Workshop Plan

Hardware integration with sensors				
Workshop / Training Plan				
Day/ Time	9:10 to 11:00	11.10 to 12.30	13:30 to 15 :00	15.10 to 16:50
Day 1	Introduction about LabVIEW	NI myRIO	Testing	Circuit design
Day 2	Sensor study	Connection	Integration	Programming


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DEPARTMENT OF EEE

46, Knowledge Park-III, Greater Noida Distt. Gautam Budh Nagar (U.P.)

LECTURE PLAN AND SYLLABUS OUTLINE

Value Added Certification Course

on

“Solar Technology”

(14 March to 15 May 2020)

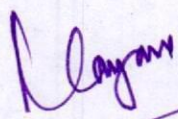
For

EEE Students

Resource Person

Snigdha Sharma

(Assistant Professor – EEE)


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Introduction about the Course

About the Course: Highly efficient solar modules developed by using various photovoltaic technologies. This course will provide a platform to explore major photovoltaic technologies in the current market. Also it will focus on various technologies, which have the potential to be the major players for different applications in the future. This course will cover all aspects of photovoltaic including energy conversion, technologies and systems.

Why the Course is important to be part of this program: Solar power is the crucial future production method in the move to clean energy, and as economies of scale drive prices down; its importance will only increase. Solar energy has the least negative impact on the environment compared to any other energy source. It does not produce greenhouse gases and does not pollute the water. Although most active solar panels give average 18% efficiency but new advances have dramatically increased that number.

Course Objective& Outcomes:

- To develop a comprehensive technological understanding in solar PV system components.
- To provide in-depth understanding of design parameters to help design and simulate the performance of a solar PV power plant.
- Develop understanding on the PV plant design and select suitable technologies.
- Plan project implementation, operation and maintenance.
- Carry out techno-economic-environmental performance evaluation of a solar PV power plant.

Pre-requisites for Course:

- Familiarity with Basics of Solar energy
- Basic understanding about power sector
- Analytical skills to assess problems and find solution using technologies

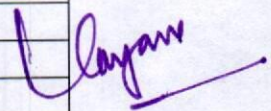
Pedagogy:

- A combination of class-room interactions, assignment, tutorial, practical and case study


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Course Outline of Value Added Certification on "Solar Technology"

Lecture No.	Topic
Lecture 1	Introduction to solar power systems
Lecture 2	Determining energy needs and sizing a PV system
Lecture 3	Global solar PV deployment status, Solar policy in India – rooftop and ground mounted cost and subsidy on solar system
Lecture 4	The growth of photovoltaic markets
Lecture 5	Review of solar radiation components, radiation on tilted surface
Assignment 1	
Lecture 6	Following solar energy from source to panel
Lecture 7	PV sizing and output under different conditions
Lecture 8	Types of PV systems: Design considerations for standalone plant
Lecture 9	Design considerations for grid connected plant
Lecture 10	Rooftop PV plant: design consideration
Assignment 2	
Lecture 11	Types of mounting structures, standards
Lecture 12	Ground mounted PV plant: Array design and PV panel mounting, electrical layout, standards
Lecture 13	Performance parameter: Losses in solar PV power plant, Yield
Lecture 14	Capacity Utilization Factor and Performance Ratio
Lecture 15	PV module technology: c-Si, Thin-film technology
Lecture 16	Response to weather parameters
Lecture 17	Commercial module ratings, standards
Assignment 3	
Lecture 18	Inverter technologies
Lecture 19	Types of inverters, inverter selection
Lecture 20	Performance, power quality
Lecture 21	Module mounting structure, tracking system
Lecture 22	Net Metering
Lecture 23	Introduction to battery
Assignment 4	
Lecture 24	Battery technologies
Lecture 25	Standalone system and utility scale storage
Lecture 26	Solar radiation in an area
Lecture 27	Operating cost of home appliances


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Lecture 28	Preliminary site survey and feasibility study
Lecture 29	Solar home system design
Assignment 5	
Lecture 30	Monitoring of PV plant
Lecture 31	Best practices in operation, cleaning and maintenance
Lecture 32	Project
Seminar/ Expert talk / Industrial Visit	
Lecture 33	Assessment Test

Assessment methodology:

Quiz / Assignment Contribution	Test Contribution	Certification
40%	60%	Yes if Score \geq 60
		No if Score $<$ 60 , Retest

Reference Books / Suggested Readings:

Text Books:

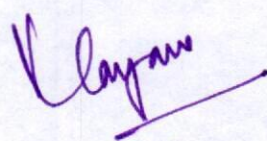
1. Winter C.J., Sizmann R.L., Vant-Hull L.L. (1991). Solar Power Plants: Fundamentals, Technology, Systems, Economics. Springer. ISBN: 3540188975.
2. Jordan P.G. (2013). Solar Energy Markets: An Analysis of the Global Solar Industry. Academic Press. ISBN: 0123977681.

Reference Books:

1. Islam M.R., Rahman F., Xu W. (2016). Advances in Solar Photovoltaic Power Plants. Springer. ISBN: 3662505193.
2. Sukhatme S.P. (2008). Solar Energy: Principles of Thermal Collection and Storage. Tata McGraw-Hill Education. ISBN: 0070260648. John Walkenbach, Microsoft Excel 2016 Bible, Wiley Publications, 2015

Useful Websites:

1. <http://solarreviews.com/>
2. <http://solarelectricpower.org/>
3. <https://www.energy.gov/>
4. <https://www.solarenergy.org/>
5. <http://geostellar.com/>
6. <https://www.renewableenergyworld.com/>
7. <https://www.greentechmedia.com/>


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8. <https://www.seia.org/>
9. <https://www.solarpowerworldonline.com/>
10. <https://solarmagazine.com/>
11. <https://ases.org/>

Learning from course related to Knowledge:

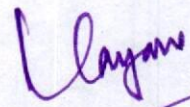
Ability to pertain knowledge about planning, project implementation and operation of solar PV power generation.

Learning from course related to Skills:

Ability to PV plant design and select suitable technologies and carry out techno-economic-environmental performance evaluation of a solar PV power plant.

Student Attended the Course

Sr. No.	Roll No.	Student Name			
			21	1902220210002	Amir Muzafar Mir
1.	1822221001	Abhishek Kumar	22	1902220210003	Ankit Singh
2.	1822221003	Anurag Rishi	23	1902220210004	Dhananjay Yadav
3.	1822221004	Arjun Kumar	24	1902220210006	Imran Fayaz
4.	1822221005	Arun Kumar Verma	25	1902220210007	Manish Pandey
5.	1822221006	Asif Reja	26	1902220210008	Mayank Sengar
6.	1822221007	Ashutosh Pratap Singh	27	1902220210009	Md. Sahil Ansari
7.	1822221009	Dhananjay Kushwaha	28	1902220210010	Mohammad Faisal Wani
8.	1822221010	Harshit	29	1902220210011	Sachin Kumar
9.	1822221011	Himanshu Yadav	30	1902220210012	Shivendra Singh
10.	1822221014	Manish Kumar	31	1902220210013	Shubham Kumar
11.	1822221015	Md Danish	32	1902220210014	Sudheer Mishra
12.	1822221016	Mohammad Shadab	33	1902220210015	Tarish Khan
13.	1822221017	Nitendra Kumar	34	2002220219001	Md. Samiruddin Ansari
14.	1822221018	Paras Nath Yadav	35	1822221019	Ravi Kumar
15.	1822221019	Ravi Kumar			
16.	1822221020	Rohit Sahu			
17.	1822221021	Rohit Sahu			
18.	1822221022	Sadhana Singh			
19.	1822221023	Salman			
20.	1902220210001	Abhishek Kumar			


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Solar Energy Add Course Attendance

Sr. No.	Roll No.	Student Name	MAR 17	MAR 18	MAR 19	MAR 20	MAR 23	MAR 24	MAR 25	MAR 26	MAR 27	MAR 30	MAR 31	APR 2	APR 3	APR 9	APR 10	APR 16	APR 17	APR 23	APR 24	APR 29	APR 30	MAY 1	MAY 2	MAY 7	MAY 8	MAY 14	MAY 15	MAY 21	MAY 22	MAY 26	MAY 27	MAY 28	MAY 29			
1.	1822221001	Abhishek Kumar		P		P		P		P	P					P		P			P		P		P		P		P		P		P		P			
2.	1822221003	Anurag Rishi	P	P	P	P			P		P			P	P	P			P		P		P		P		P		P		P		P		P			
3.	1822221004	Arjun Kumar		P	P		P			P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P			
4.	1822221005	Arun Kumar Verma	P	P		P			P				P		P	P	P		P	P	P		P		P		P		P		P		P		P			
5.	1822221006	Asif Reja		P	P	P	P				P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		
6.	1822221007	Ashutosh Pratap Singh	P	P		P	P	P							P	P	P	P		P	P	P		P		P		P		P		P		P		P		
7.	1822221009	Dhananjay Kushwaha			P	P		P		P	P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		
8.	1822221010	Harshit	P	P	P		P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
9.	1822221011	Himanshu Yadav			P				P			P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P	
10.	1822221014	Manish Kumar	P	P		P	P	P			P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		
11.	1822221015	Md Danish			P	P		P	P					P			P	P	P		P	P	P		P		P		P		P		P		P		P	
12.	1822221016	Mohammad Shadab	P	P		P		P	P	P			P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
13.	1822221017	Nitendra Kumar	P		P	P		P	P			P			P	P	P		P	P	P		P		P		P		P		P		P		P		P	
14.	1822221018	Paras Nath Yadav	P								P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		P	
15.	1822221019	Ravi Kumar		P	P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
16.	1822221020	Rohit Sahu	P				P		P		P									P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
17.	1822221021	Rohit Sahu			P	P			P			P	P	P	P	P	P		P	P	P		P		P		P		P		P		P		P		P	
18.	1822221022	Sadhana Singh	P	P			P	P			P	P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		P
19.	1822221023	Salman	P		P			P	P			P	P	P	P	P	P		P	P	P		P		P		P		P		P		P		P		P	
20.	1902220210001	Abhishek Kumar		P		P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
21.	1902220210002	Amir Muzafar Mir	P		P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
22.	1902220210003	Ankit Singh	P		P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
23.	1902220210004	Dhananjay Yadav		P		P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
24.	1902220210006	Imran Fayaz	P		P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
25.	1902220210007	Manish Pandey			P		P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
26.	1902220210008	Mayank Sengar	P		P	P	P				P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		P	
27.	1902220210009	Md. Sahil Ansari			P		P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
28.	1902220210010	Mohammad Faisal Wani	P		P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
29.	1902220210011	Sachin Kumar		P		P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
30.	1902220210012	Shivendra Singh	P		P	P	P	P			P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		P	
31.	1902220210013	Shubham Kumar		P	P	P		P	P			P	P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
32.	1902220210014	Sudheer Mishra	P		P		P	P			P	P			P	P	P		P	P	P		P		P		P		P		P		P		P		P	
33.	1902220210015	Tarish Khan		P	P	P					P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
34.	2002220219001	Md. Samiruddin Ansari	P		P	P	P	P			P		P		P	P	P		P	P	P		P		P		P		P		P		P		P		P	
35.	1822221019	Ravi Kumar		P		P	P	P			P			P		P	P		P	P	P		P		P		P		P		P		P		P		P	

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ITS Engineering College
Greater Noida



I.T.S ENGINEERING COLLEGE

GREATER NOIDA
(NAAC Accredited)

DEPARTMENT OF EEE

46, Knowledge Park-III, Greater Noida Distt. Gautam Budh Nagar (U.P.)

LECTURE PLAN AND SYLLABUS OUTLINE

Value Added Certification Course

on

“Introduction to Programming with MATLAB”

(14 March to 15 May 2020)

For

EEE Students

Resource Person

Mr Parveen Bhola

(Assistant Professor – EEE)

Director
ITS Engineering College
Greater Noida

Introduction about the Course

About the Course: This course teaches computer programming to those with little to no previous experience. It uses the programming system and language called MATLAB to do so because it is easy to learn, versatile and very useful for engineers and other professionals. MATLAB is a special-purpose language that is an excellent choice for writing moderate-size programs that solve problems involving the manipulation of numbers. The design of the language makes it possible to write a powerful program in a few lines. The problems may be relatively complex, while the MATLAB programs that solve them are relatively simple: relative, that is, to the equivalent program written in a general-purpose language, such as C++ or Java. As a result, MATLAB is being used in a wide variety of domains from the natural sciences, through all disciplines of engineering, to finance, and beyond, and it is widely used in industry. Hence, a solid background in MATLAB is an indispensable skill in today's job market.

Why the Course is important to be part of this program: An introductory programming course uses MATLAB to illustrate general concepts in computer science and programming. Students who successfully complete this course will become familiar with general concepts in Electrical and Electronics Engineering, gain an understanding of the general concepts of programming, and obtain a solid foundation in the use of MATLAB.

Course Objective& Outcomes:

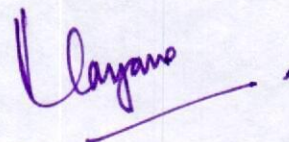
- You will learn fundamental computer programming concepts such as variables, control structures, functions and many others.
- You will learn about various data types and how to handle them in MATLAB.
- You will learn the powerful support MATLAB provides for working with matrices.
- You will learn about file input/output.

Pre-requisites for Course:

- Good knowledge of mathematical terms, like matrix, array, algebra, numbers, polynomial, differential equations.
- Computer\Laptop with licensed version of MATLAB

Pedagogy:

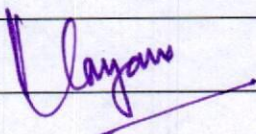
- Engineering problem solving using MATLAB



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**Course Outline of Value Added Certification on
"Introduction to Programming with MATLAB "**

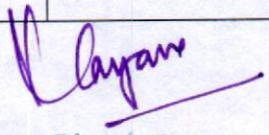
Lecture No.	Content
Lecture 1	MATLAB (Basics): Introduction to MATLAB, MATLAB as a sophisticated calculator
Lecture 2	Syntax and semantics and creating plots in MATLAB.
Lecture 3	Addition, Subtraction, Multiplication, and Division of matrices using various MATLAB operators
Lecture 4	Different operation performed on matrices using MATLAB
Lecture 5	Functions: Introduction to the function
Lecture 6	Splitting the complex problem via function
Assignment 1 (Quiz/Programming Assignments)	
Lecture 7	Using the built-in function of MATLAB
Lecture 8	Random number generation and using it for different assignment
Lecture 9	How to print on command window
Lecture 10	Plotting the graph
Lecture 11	Finding the programming Error
Lecture 12	Debugging the programming error with help of Debugger
Assignment 2 (Quiz/ Programming Assignments)	
Lecture 13	Use of If statement
Lecture 14	How to use Nested If statement
Lecture 15	Relational and logical operators
Lecture 16	How to use different operators in MATALAB
Lecture 17	How to use For Loop
Lecture 18	How to use While Loop
Assignment 3 (Quiz/ Programming Assignments)	
Lecture 19	Break statement
Lecture 20	Logical Indexing


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Lecture 21	Introduction to the Data types
Lecture 22	Character array and Structures
Lecture 23	Cells type data
Lecture 24	The string type data
Assignment 4 (Quiz/ Programming Assignments)	
Lecture 25	Introduction to the Data types
Lecture 26	Character array and Structures
Lecture 27	Cells type data
Lecture 28	The string type data
Lecture 29	File input\ output
Lecture 30	Excel file handing in the MATLAB
Lecture 31	How to create, read and write in MAT-files and Excel file
Lecture 32	Introduction to various toolbox of MATLAB used in Electrical and Electronics Engineering.
Workshop / Expert Talk / Seminar	
Lecture 33	Project
Lecture 34	Assessment Test

Assessment methodology:

Quiz / Assignment Contribution	Test Contribution	Certification
40%	60%	Yes if Score \geq 60
		No if Score $<$ 60 , Retest


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Reference Books / Suggested Readings:

Text Books:

1. Peter Issa Kattan, MATLAB for Beginners: A Gentle Approach, PHI Learning Pvt. Ltd., 2008.
2. J. Michael Fitzpatrick and Ákos Ledecz, Computer programming with MATLAB, TMH Publication, 2015

Reference Books:

1. MATLAB programming fundamentals by Mathworks

Useful Websites:

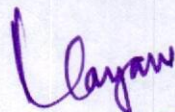
1. www.mathworks.com

Learning from course related to Skills:

Ability to solve the problems in engineering domain and prepare them for the placement as well.

Student Attended the Course

Sr. No.	Roll No.	Student Name			
			21	1902220210002	Amir Muzafar Mir
1.	1822221001	Abhishek Kumar	22	1902220210003	Ankit Singh
2.	1822221003	Anurag Rishi	23	1902220210004	Dhananjay Yadav
3.	1822221004	Arjun Kumar	24	1902220210006	Imran Fayaz
4.	1822221005	Arun Kumar Verma	25	1902220210007	Manish Pandey
5.	1822221006	Asif Reja	26	1902220210008	Mayank Sengar
6.	1822221007	Ashutosh Pratap Singh	27	1902220210009	Md. Sahil Ansari
7.	1822221009	Dhananjay Kushwaha	28	1902220210010	Mohammad Faisal Wani
8.	1822221010	Harshit	29	1902220210011	Sachin Kumar
9.	1822221011	Himanshu Yadav	30	1902220210012	Shivendra Singh
10.	1822221014	Manish Kumar	31	1902220210013	Shubham Kumar
11.	1822221015	Md Danish	32	1902220210014	Sudheer Mishra
12.	1822221016	Mohammad Shadab	33	1902220210015	Tarish Khan
13.	1822221017	Nitendra Kumar	34	2002220219001	Md. Samiruddin Ansari
14.	1822221018	Paras Nath Yadav	35	1822221019	Ravi Kumar
15.	1822221019	Ravi Kumar			
16.	1822221020	Rohit Sahu			
17.	1822221021	Rohit Sahu			
18.	1822221022	Sadhana Singh			
19.	1822221023	Salman			
20.	1902220210001	Abhishek Kumar			


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MATLAB Addon Course Attendance

Sr. No.	Roll No.	Student Name	MAR 17	MAR 18	MAR 19	MAR 20	MAR 23	MAR 24	MAR 25	MAR 26	MAR 27	MAR 30	MAR 31	APR 2	APR 3	APR 9	APR 10	APR 16	APR 17	APR 23	APR 24	APR 29	APR 30	MAY 1	MAY 2	MAY 7	MAY 8	MAY 14	MAY 15	MAY 21	MAY 22	MAY 26	MAY 27	MAY 28	MAY 29		
1.	1822221001	Abhishek Kumar				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2.	1822221003	Anurag Rishi	P				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3.	1822221004	Arjun Kumar		P	P		P	P	P					P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4.	1822221005	Arun Kumar Verma				P				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
5.	1822221006	Asif Reja	P	P			P	P	P		P	P	P			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
6.	1822221007	Ashutosh Pratap Singh			P	P	P	P	P	P			P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
7.	1822221009	Dhananjay Kushwaha	P	P			P	P	P	P	P	P		P											P	P	P	P	P	P	P	P	P	P	P	P	P
8.	1822221010	Harshit				P	P	P	P		P		P			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
9.	1822221011	Himanshu Yadav	P	P	P		P	P	P			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
10.	1822221014	Manish Kumar									P					P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
11.	1822221015	Md Danish	P			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
12.	1822221016	Mohammad Shadab		P	P						P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
13.	1822221017	Nitendra Kumar	P	P			P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
14.	1822221018	Paras Nath Yadav			P		P	P	P		P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
15.	1822221019	Ravi Kumar	P			P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
16.	1822221020	Rohit Sahu		P			P	P			P		P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
17.	1822221021	Rohit Sahu	P		P	P	P	P	P		P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
18.	1822221022	Sadhana Singh		P			P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
19.	1822221023	Salman	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
20.	1902220210001	Abhishek Kumar					P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
21.	1902220210002	Amir Muzafar Mir	P	P		P	P	P	P			P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
22.	1902220210003	Ankit Singh				P					P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
23.	1902220210004	Dhananjay Yadav	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
24.	1902220210006	Imran Fayaz			P						P					P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
25.	1902220210007	Manish Pandey	P	P		P	P	P	P	P	P			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
26.	1902220210008	Mayank Sengar			P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
27.	1902220210009	Md. Sahil Ansari	P		P		P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
28.	1902220210010	Mohammad Faisal Wani	P	P		P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
29.	1902220210011	Sachin Kumar	P		P	P				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
30.	1902220210012	Shivendra Singh				P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
31.	1902220210013	Shubham Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
32.	1902220210014	Sudheer Mishra			P	P				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
33.	1902220210015	Tarish Khan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
34.	2002220219001	Md. Samiruddin Ansari				P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
35.	1822221019	Ravi Kumar		P	P	P		P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Udaya

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Greater Noida

Name of Event: One Day Workshop on **Robotics & IOT**

Date of Event: March 3, 2020.

Organized by: EEE Department, I.T.S Engineering College Greater Noida

Event Coordinator: Mr. Rajiv Ranjan

Objective:

- To enhance the technical knowledge in Robotics & IOT

Report:

Department of Electrical & Electronics Engineering, I.T.S Engineering College Greater Noida organized One Day Workshop on **Robotics & IOT** for B.Tech students on March 3, 2020. The workshop is conducted by Mr. Shashant Kumar, Robotics & IOT- expert from Sofcon India Pvt Ltd. The Robotics & IOT technology deals with the concepts involved in interdisciplinary branch of engineering and science that includes Mechanical Engineering, Electrical & Electronics Engineering, Information technology, Computer science and others. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing. The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

In today's workshop students learned about concepts of Robotics, Embedded C Programming, IR Sensor applications, Motor controlling through driver IC and Simulation on Proteus in first half of the session.

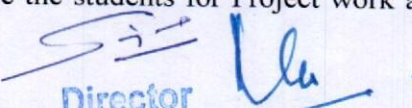
In post lunch session participants were able to understand about concepts of IOT, Raspberry pi, user interface development and hands on practical of home automation.

Finally, Mr. Rajiv Ranjan, Assistant Professor of EEE Department, ITS Engineering College, gave a Vote of Thanks speech.

Program Outcome:

- Students learnt about design consideration for Robotics & IOT System

Scope of Improvement: To involve the students for Project work and internship in Robotics & IOT technology.


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No. of Faculty attended: 06

No. of Student attended: 62

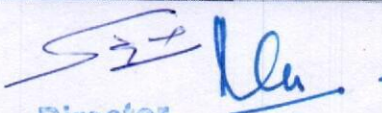
Coordinator:

Rajiv Ranjan

Assistant Professor

EEE Dept.




Director
ITS Engineering College
Greater Noida

I.T.S ENGINEERING COLLEGE
GREATER NOIDA
(A NAAC Accredited Engineering College)

Name of Event
One Day Arduino Simulation Workshop

Date of Event:
14th Feb 2020

Organized by: ECE Department at NI Innovation Center.

Event Coordinator: Mr. Nitesh Pradhan,
Objective: Arduino Simulation using Arduino SimulIED Software.

Report:

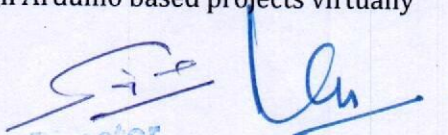
The Department of Electronics and Communication Engineering of I.T.S Engineering College, Greater Noida, organized One Day Arduino Simulation Workshop. This Workshop was coordinated and conducted by Mr. Nitesh Pradhan Coordinator of NI Innovation Center on 14th Feb 2020. The program was based on Arduino SimulIED Software which is a virtual platform for Arduino board simulation.

No. of Students attended: 43

S.N	Branch	No of student	College
1	3 rd year ECE	26	I.T.S Engg
2	2 nd Year ECE	14	I.T.S Engg
3	4 th Year ECE	03	I.T.S Engg

Outcomes:

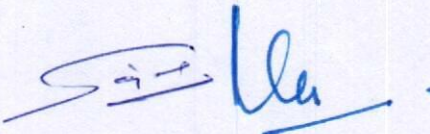
- Student use SimulIED learns how can they design and work in Virtual Arduino board
- Now student able to design, test and verify their code and logic.
- Now student are able to design Arduino based projects virtually


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Coordinators
(Nitesh Pradhan)

Name of students attended the class

S. No.	Name of Participant	Year
1	ABHAY	2nd Year
2	UDAY SHARMA	2nd Year
3	ANKITA PANDEY	2nd Year
4	AKANKSHA MISHRA	2nd Year
5	ANKIT GUPTA	2nd Year
6	HARSH PUNDIR	2nd Year
7	KALPASH KUMAR	2nd Year
8	MOHD SHAKAIB GHAZI	2nd Year
9	MUSADIQ SADEEQ	2nd Year
10	NAMAN GARG	2nd Year
11	NIKHIL SINGH	2nd Year
12	OM GUPTA	2nd Year
13	RAJAT GUPTA	2nd Year
14	RAKSHIT TIWARI	2nd Year
15	RAVINDRA SINGH	2nd Year
16	SATRAJEET NEOGI	2nd Year
17	SHAHRUKH AMBER	2nd Year
18	SHASHWAT TRIPATHI	2nd Year
19	SHREYAS THAKUR	2nd Year
20	SHUBHAM VERMA	2nd Year
21	TANMAY SRIVASTAVA	2nd Year
22	UDAY SHARMA	2nd Year
23	UDAY SHARMA	2nd Year
24	VISHAL KUMAR BAITHA	2nd Year
25	VISHAL	2nd Year
26	Vishal kumargiri	2nd Year
27	Akshay Mishra	3rd Year
28	Mohit sharma	3rd Year
29	Sashikant Joshi	3rd Year
30	Jayendra Gautam	3rd Year
31	Sharad Singh	3rd Year
32	AmeyaVikrama	3rd Year


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33	Nikhil Jain	3rd Year
34	Satyam Jaiswal	2nd Year
35	Akshat madhavan	3rd Year
36	Pankaj Singh	3rd Year
37	Antariksh Gupta	3rd Year
38	Mithileshkumar	3rd Year
39	Rohan Gupta	3rd Year
40	Abhishek Jaiswal	3rd Year
41	Madhavi ranjan	4th Year
42	Sarvesh Singh	4th Year
43	SUHAIL IRSHAD RATHER	4th Year

Program Outline

S.No	Topic 9.10 AM- 12.30PM	Topic 1.00 PM- 4.50 PM
1	Code Wring and Simulation	Sensor interfacing


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GREATER NOIDA
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Name of Event

One day Workshop on Introduction to the Internet of Things and Cloud

Date of Event:

31st Jan 2020

Organized by: ECE Department at NI Innovation Center.

Event Coordinator: Mr. Nitesh Pradhan,

Objective: One day Workshop on Introduction to the Internet of Things and Cloud

Report:

The Department of Electronics and Communication Engineering of I.T.S Engineering College, Greater Noida, organized One day Workshop on Introduction to the Internet of Things and Cloud. This Training Program was coordinated and conducted by Mr. Nitesh Pradhan Coordinator of NI Innovation Center from 31st Jan 2020. The program was based on Internet of Things and Cloud.

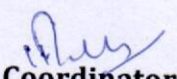
No. of Students attended: 20

S.N	Branch	No of student	College
1	2 nd Year ECE	11	I.T.S Engg
2	2 nd Year CSE	9	I.T.S Engg

Outcomes:

- Student learns about Cloud Concept for IOT.
- Student learn how can they sent their data into cloud.
- Student Get free certificate from Udemy just after this courses.


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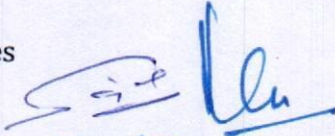

Coordinators
(Nitesh Pradhan)

Name of students

S. No	Name of Participant	Year & Branch
1	Vishal kumarbaitha	2nd Year ECE
2	Om Gupta	2nd Year ECE
3	Ashish	2nd Year ECE
4	Anand pandey	2nd Year CSE
5	Tushar verma	2nd Year ECE
6	Akanksha Mishra	2nd Year ECE
7	Ankit Gupta	2nd Year ECE
8	Ravindra singh	2nd Year ECE
9	Vishal	2nd Year ECE
10	Naman Garg	2nd Year ECE
11	Tanmay Srivastava	2nd Year ECE
12	Rishavkumar	2nd Year ECE
13	Divyansh	2nd Year CSE
14	Prem Narayan	2nd Year CSE
15	AYUSH GUPTA	2nd Year CSE
16	Saurabh rai	2nd Year CSE
17	Amlendu Shekhar	2nd Year CSE
18	Anand pandey	2nd Year CSE
19	Swagat Sriram Bara	2nd Year CSE
20	Akash	2nd Year CSE

Program Content

- Introduction to IoT and Cloud
- IoT Devices, Networks and Systems
- Where do Cloud Platforms come in?
- What do Cloud Platforms offer?
- Hands-on with a Cloud Platform
- IoT Security Challenges
- IoT and Digital Storage Challenges


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