

NEXUS

DEPT OF ECE

JAN-MAR 19

Vol.4-Edition1



About ECE Department

Vision

To excel globally in technical education through research, innovation and consulting in the field of Electronics and Communication Engineering and thus contribute to the larger good of the society.

Missions

<i>M1</i>	<i>Establish a unique learning environment to enable the students to face the ever-emerging challenges in the field of Electronics and Communication Engineering.</i>
<i>M2</i>	<i>To equip the students with a broad intellectual spectrum in order to prepare them for diverse and competitive career path.</i>
<i>M3</i>	<i>To increase the visibility of academic programs globally, attract and nurture talent at all levels.</i>
<i>M4</i>	<i>To provide practical oriented education and foster research tie-up with national/ international education institute, research bodies and industry to promote the intellectual and research pursuits of students and faculty</i>
<i>M5</i>	<i>Provide ethical and value-based education by promoting activities addressing the societal needs</i>

PEOs

<i>PEO1</i>	<i>To provide comprehensive knowledge of electronics and communication engineering and related subjects for professional development, advanced education and develop entrepreneur skills.</i>
<i>PEO2</i>	<i>Be receptive to new technologies and attain professional competence through advanced degrees, professional societies, publications and other professional activities.</i>
<i>PEO3</i>	<i>To develop the ability to demonstrate technical competence in the field of electronics and communication engineering by teaching new and advance courses and provide an environment for technology related research.</i>
<i>PEO4</i>	<i>To impart value-based knowledge and enable the students to practice profession with ethics and a sense of social responsibility by making them more aware of contemporary issues</i>

FROM DIRECTOR'S DESK

It gives me immense satisfaction that next issue of ECE Newsletter is ready for the readers. A college Newsletter mirrors the success story of an institution and act as a great medium to reach out to the outer world. It reflects upon the persistent and committed efforts made by faculty, staff and students for taking the institution one step ahead. Continuing the same tradition, this issue of Nexus'18, reflects upon commendable contribution made by all members of PIET family in their fields of expertise as well as for the overall growth of the college.

I congratulate everyone for their bit of service for the institution and do expect the same in times to come. I also congratulate the editorial team for bringing out present issue of newsletter.

"Success consists of going from failure to failure without loss of enthusiasm."

—Winston Churchill

Wish you good luck!



Prof.(Dr.) Shakti Kumar
(Director)

FROM HOD'S DESK

I am very pleased to present you the newsletter of Electronics and Communication Engineering Department. Within these pages you will find much news related to diverse activities from the whole Faculty members and students. You can see the contributions from Faculties and students. I hope everyone will find this newsletter exciting and interesting.

"Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time."
- Thomas A. Edison

Wishing you all the best !!!



Prof. Swati Gupta
(HOD ECE)



Please feel free to drop in your suggestions to swatigupta.ece@piet.co.in

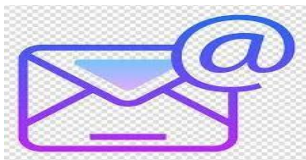
EDITOR'S NOTE

It is a matter of pride as well as pleasure to present before our readers next issue of Department Newsletter. We feel honored for the faith reposed in us for performing the role of editors of Department Newsletter. We have put whole-hearted endeavors to give a complete and kaleidoscopic view of laudable achievements of ECE department. Through further issues of Nexus, we do hope that we will come up to the expectations of our readers.

"There are far, far better things ahead than any we leave behind." - C.S. Lewis



Assistant Prof. Sapna Arora , ECE



Please feel free to drop in your suggestions to monika.ece@piet.co.in or sapna.ece@piet.co.in

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TECHNICAL ACTIVITY I

Two days workshop on IOT was organised by ECE department from 14 January to 15 January 2019.

It was conducted by Mr. Arun Rana and Mr. Ishant Munjhal .

The topics covered under this program were:

- *Introduction to the Internet of Things*
- *The Arduino Platform*
- *Reading from Sensors*
- *Arduino Programming & Interface of Sensors*
- *Programming fundamentals (C language)*

i) Project 1:

Integrating Sensors & Reading Environmental Physical Values.

ii) Project 2:

Reading Environmental Values on Android Smartphone

iii) Project 3:

Voice Controlled Mini Home Automation using Android Smartphone

iv) Project 4:

Control Devices using Local host Web Server for Home Automation.

v) Project 5:

Send Voltage & Analog Data on Cloud Server

vi) Project 6:

Control Electronic Devices with MATLAB

vii) Project 7:

Control Electronic Devices from anywhere across the world using Internet & Mobile App.

viii) Project 8:

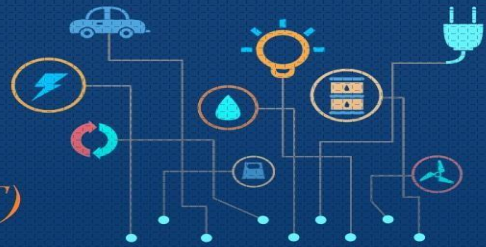
Use Arduino to Upload free data from Environmental Sensors to Cloud

Technical Activity 1



*Department of ECE
organized
2 days Workshop
on
INTERNET OF THINGS (IOT)*

14, 15 January 2019



Technical Details:

Day 1:

- * Introduction to the Internet of Things
- * Knowing the Arduino Platform
- * Reading from Sensors
- * Programming fundamentals (C language)
- * Arduino Programming & Interface of Sensors

Day 2:

- * Project: Integrating Sensors & Reading Environmental Physical Values
- * Project: Reading Environmental Values on Android Smartphone
- * Project: Voice Controlled Mini Home Automation using Android Smartphone
- * Project: Control Devices using Local host Web Server for Home Automation
- * Project: Control Electronic Devices from anywhere across the world
- * Project: Control Electronic Devices with MATLAB

TECHNICAL ACTIVITY II

One day Seminar on “OPTICAL FIBER & SPLICING”.

The topics covered under this program were:

- Basics of Optical Fiber and its applications*
- Hands on Mechanical splicing.*

Speaker- Dr. J.K Chabbra

Venue- E block, ground floor, seminar hall.

Date- 27 th March, 2019



FACULTY PUBLICATIONS

<i>Faculty name</i>	<i>Paper Title</i>	<i>Name of Journal/Conference</i>
<i>Mr. Vinay Dawar (Assistant Professor)</i>	<ul style="list-style-type: none"> <i>•Performance evaluation of hybrid method mmse & sic for interference cancellation in wireless communication system</i> <i>•Performance evaluation of advanced wimax-ofdm wireless communication using ber & ser”</i> 	<i>Journal of emerging technology and innovative research.</i> <i>Journal of emerging technology and innovative research</i>
<i>Mr. Sachin Dhawan (Assistant Professor)</i>	<i>Comparative analysis of various technical steganography</i>	<i>IEEE conference on Computing for Sustainable Global Development</i>
<i>Mr. Yeeshu Ralhen (Assistant Professor)</i>	<i>Review of various Techniques in wimax-ofdm wireless communication</i>	<i>Intelligent Systems:Approaches, Technologies and Networks (ISATN-2019)</i>
<i>Ms. Sapna Arora (Assistant Professor), Dr. Ruchira Aneja (Assistant Professor), Dr. Monika Gambhir (Associate Professor)</i>	<i>Study on Feeding Techniques for Microstrip Patch Antenna for Wireless Applications”</i>	<i>Intelligent Systems : Approaches, Technologies and Networks (ISATN-2019)</i>

CAMPUS PLACEMENT

BATCH 2019

Following students have been placed in reputed companies.

<i>Sr. No.</i>	<i>Roll No.</i>	<i>Name</i>	<i>Company</i>	<i>Package(LP A)</i>
1	2815291	Abhishek	Think & Learn(Byju's), GATS	9.15
2	2815285	Harshit Gupta	Think & Learn(Byju's)	9.15
3	2815251	Jatin	Wipro	3.5
4	2815283	Hitesh	TCS	3.5
5	2815276	Ravi Shankar	Propshop	2.5
6	2815278	Komal Sharma	GATS	3.0
7	2815258	Madhu	Helios	1.8
8	2815286	Neha Mokharia	Helios	1.8
9	2815256	Bhisham	Genpact	3.0
10	2815255	Neha Madaan	GATS	3.0
11	2815288	Armaan Hussain	HIKE	4.0
12	2815257	Abhishek Chaudhary	GATS	3.0

Congratulations....Best of luck for future !!!

TECHNICAL ARTICLE

INTERNET OF THINGS (I.o.T.)

Introduction :

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, collecting and sharing data. Thanks to cheap processors and wireless networks, it's possible to turn anything, from [a pill](#) to [an aeroplane](#) to a self-driving car into part of the IoT. This adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real time data without a human being involved, effectively merging the digital and physical worlds.



How IoT works ???

An IoT ecosystem consists of web-enabled smart devices that use embedded processors, sensors and communication hardware to collect, send and act on data they acquire from their environments. [IoT devices](#) share the sensor data they collect by connecting to an IoT gateway or other edge device where data is either sent to the cloud to be analyzed or analyzed locally. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data.

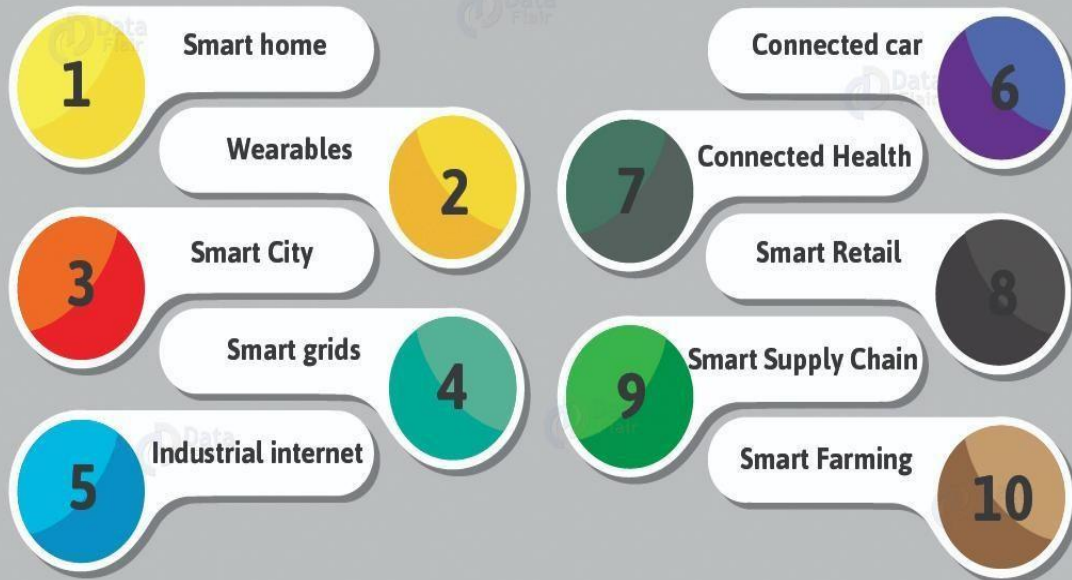
Pros of IoT:

- Ability to access information from anywhere at any time on any device;*
- Improved communication between connected electronic devices;*
- Transferring data packets over a connected network saves time and money;*
- Automating tasks helps improve the quality of a business' services and reduces the need for human intervention.*

Cons of IoT:

- As the number of connected devices increases and more information is shared between devices, the potential that a hacker could steal confidential information also increases;*
- Enterprises may eventually have to deal with massive numbers -- maybe even millions -- of IoT devices and collecting and managing the data from all those devices will be challenging.*
- If there's a bug in the system, it's likely that every connected device will become corrupted;*
- Since there's no international standard of compatibility for IoT, it's difficult for devices from different manufacturers to communicate with each other.*

IOT Applications and Usecases



FUTURE SCOPE

- Controlling various household devices of house with internet
- Industrial automation and management through internet
- machine-driven fireplace exit systems
- improvement of security problems in extremely restricted areas.