



POORNIMA
INSTITUTE OF ENGINEERING & TECHNOLOGY

Affiliated to RTU, Kota • Approved by AICTE & UGC under 2(f) • Accredited by NAAC and NBA

**REPORT
ON
National Level
Online Faculty Development Programme on**

IOT using Raspberry-Pi

Date- July 7th to July 10th 2020

Organized By-
Department of Computer Engineering
Poornima Institute of Engineering & Technology
ISI-2. RIICO INSTITUTIONAL AREA, SITAPURA, JAIPUR – 302022
RAJASTHAN, INDIA

www.piet.poornima.org

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Faculty Development
Programme
on
IOT
(Using Raspberry Pi)



Techienest

Transforming Engineers to Technocrats

EXPERT



Mr. Chandan Kumar Dubey

Assistant Professor
Department:- CS,PIET

ORGANIZED
BY

Department of
Computer Engineering
In association with
TechieNest



Mr. Saurabh Bhardwaj

Head- R& D at
TechieNest

Date:
July 07th to July 10th 2020

Contact us:

Mr. Abhishek Dadhich

Phone No:- 9001571710

Email Id :- Abhishek.dadhich@poornima.org

National Level Online Faculty Development Programme

Date: July 7th to July 10th 2020

Time-02:00 PM-04:00 PM

Mode- Online (Google Meet)

Participants Registered-276

Resource Persons

- 1. Mr. Bhanwar Veer Singh,
Asst. Professor , CE, PIET**
- 2. Mr. Abhishek Dadhich ,
Asst. Professor, CE, PIET**
- 3. Mr. Chandan Kumar Dubey ,
Asst. Professor, CE, PIET**
- 4. Ms. Alka Rani, Asst. Professor,
CE, PIET**
- 5. Mr. Saurabh Bhardwaj,
Head,R&D, Techienest, Jaipur**
- 6. Ms. Divya Rastogi
Technical Assistant, CE, PIET**
- 7. Mr. Sanjeev Rishi
Technical Assistant, CE, PIET**

Selected Participants for FDP- 148

FDP Attended- 148

Mode of FDP: Presentation and Hands on Raspberry-Pi

Detailed Report

Department of Computer Engineering, Poornima Institute of Engineering & Technology has conducted **National Online Faculty Development Programme** on “**IOT using Raspberry-Pi**” from **July 07th to July 10th 2020**.

The Objective of FDP was

- Able to understand building blocks of Internet of Things and characteristics
- Able to understand the application areas of IOT.
- Able to design some IOT based prototypes
- Able to realize the revolution of the Internet in Mobile Devices, Cloud & Sensor Networks.

The purpose of this FDP is to expose the faculty members/research scholars to emerging technologies in the area of Internet of Things. This FDP provides practical foundation-level training that enables immediate and effective participation in ‘Internet of Things’ and its related projects. The main objective of the FDP was to provide the faculty members an opportunity to develop their skills in embedded computing with Raspberry Pi which is has remarkable importance in the field of technology today. The sessions of the FDP commenced with the introduction and a brief overview of the architecture of the Raspberry Pi. Complete installation process right from loading of the operating system onto the Raspberry and mapping the IPs was shown. Basics of Linux commands were introduced followed by Python programming language and interfacing of different devices. **Eventually 148 participants have been trained by team of Department of Computer Engineering, PIET.**

- Mr. Saurabh Bhardwaj, Industrial Expert conducted hands on session on Raspberry-Pi. He explained what kind of challenges and threats are there in the field of IOT. He demonstrated the interfacing of web camera with Raspberry-Pi and also explained the use of cloud service in the field of IOT. The session handled by him was so informative and practical approach as well.

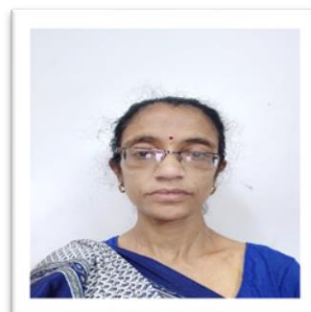
Detail plan of FDP

No.	Contents	Topics	Day
1	Introduction to IOT , Raspberry_Pi And Basics of Python Programming	<ul style="list-style-type: none"> • What is IOT, Features • Applications & Scope of Raspberry_Pi • Raspberry_Pi & its Various OS • Introduction to Raspbian 	Day-01
		<ul style="list-style-type: none"> • Features of Command Window & Script Window • Basic Python Commands & Keyboard Shortcuts • Defining Editing and Clearing Variables & Checking for Existence • My First Python Program 	
		<ul style="list-style-type: none"> • Introduction to Arrays, Python Data Types and Basic I/O operations • Various Python Functions & their use • Creating & running User defined Functions 	
2	Getting Started with R- Pi , Controlling I/O's And Programming on Raspberry-Pi	<ul style="list-style-type: none"> • Raspbian – A Debian Derivative • The Concept of Open Source • Installing & Starting Raspberry_Pi • Understanding the Raspberry_Pi • Desktop Layout • Command Window (Terminal) • Editor Window Workspace • Command History, Graphic Window 	Day-02
		<ul style="list-style-type: none"> • Accessing GPIO Pins, Glowing LED through RPi 	
3	Practical: Glowing multiple LED patterns	<ul style="list-style-type: none"> • Relays-Definition, Working Methodology,Types, Advantages & Application Controlling of DC Relay using Pi 	Day-03
		<ul style="list-style-type: none"> • Hands on-Practical: Interfacing Relay with Rpi 	
		<ul style="list-style-type: none"> • Project: Seminar/Conference Hall Automation 	
4	IOT Over cloud	<ul style="list-style-type: none"> • Cloud,features & scope of using IOT over cloud, Data connectivity of IoT devices with open cloud, Development of various applications in IOT. 	Day-04
		<ul style="list-style-type: none"> • Project: Checking status of bulb through Web. • Web camera Interfacing 	

At last all participants shared their feedback & their excellent learning throughout the FDP. **Mr. Deepak Moud , Head of Department, Computer Engineering , PIET** thanked all participants for their four days continuous learning & asked them to enroll in different other activities of PIET also. He has praised all the efforts made by trainers & organizing committee for their excellent efforts to make FDP successful. All participants were awarded with E-Certificate at the end of FDP for successful participation in FDP.

FDP PHOTOGRAPHS

Our Team of FDP





Mr. Deepak Moud
HOD, CE, PIET



Mr. Abhishek Dadhich, Co-Convener
Asst. Prof. (CE), PIET

Experts of FDP



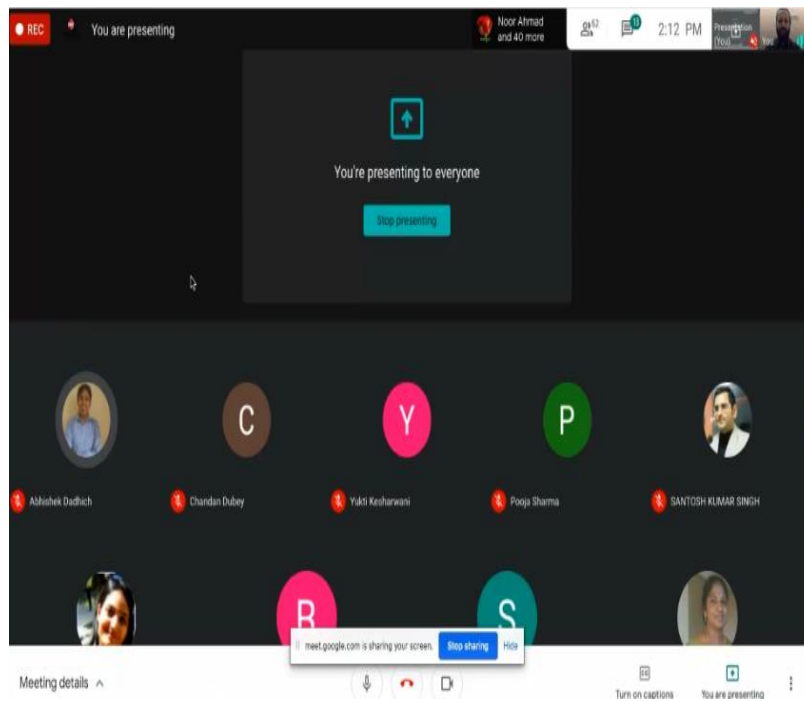
**Mr. Saurabh Bhardwaj
(Head, R&D, Techienest)**

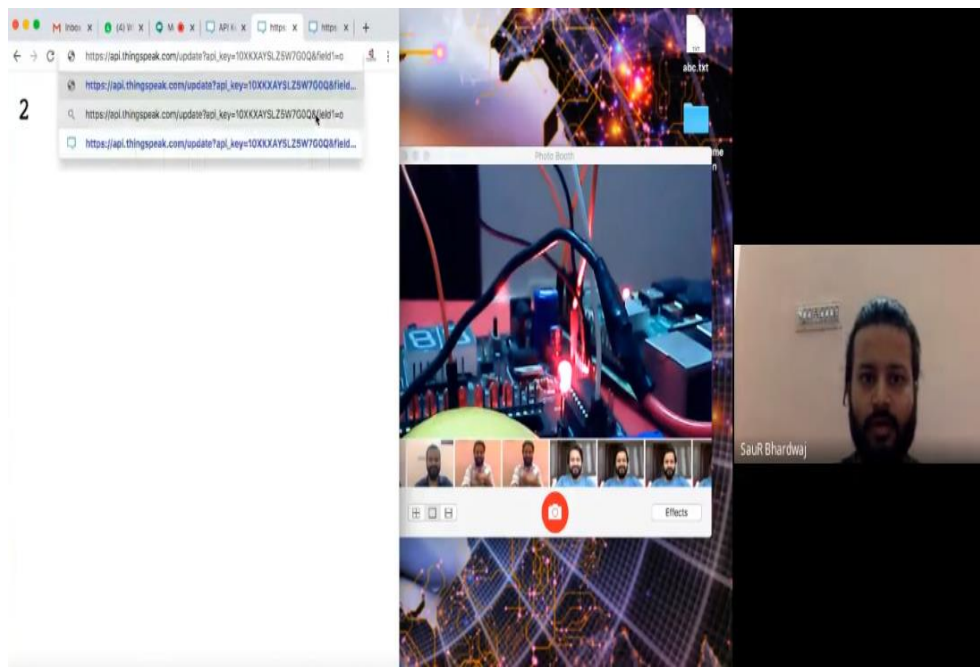
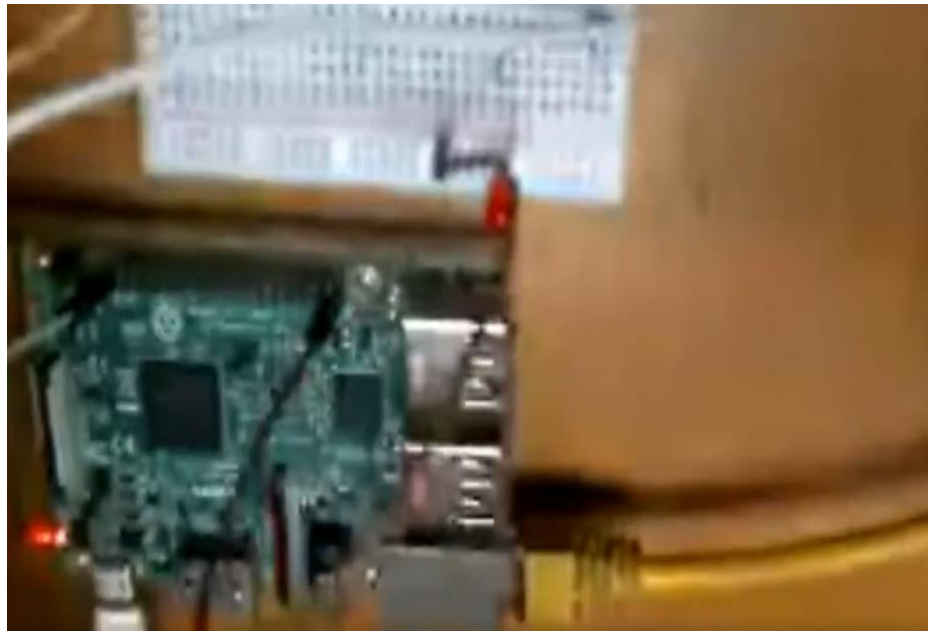


**Mr. Chandan Kumar Dubey,
Asst. Prof. (CS, PIET)**

```
pi@raspberrypi: ~/Desktop
┌───(Desktop)
└───
File Edit Tabs Help

pi@raspberrypi:~$ ls
Desktop Documents Downloads Music Pictures pocketphinx-python Public Templates thinclient_drives Videos
pi@raspberrypi:~$ cd Desktop/
pi@raspberrypi:~/Desktop$ pwd
~/Desktop
pi@raspberrypi:~/Desktop$ cd /
pi@raspberrypi:/$$ ls
bin boot dev etc home lib lost+found media mnt opt proc root run sbin srv sys usr var
pi@raspberrypi:/$$ cd home/
pi@raspberrypi:~/home$ ls
pi
pi@raspberrypi:~/home$ cd pi
pi@raspberrypi:~/pi$ ls
Desktop Documents Downloads Music Pictures pocketphinx-python Public Templates thinclient_drives Videos
pi@raspberrypi:~/pi$ cd Desktop/
pi@raspberrypi:~/pi/Desktop$ ls
face-mask-saffe led_cloud_test123.py MahalNet SDP Pi Cam Test.py damb testshot.jpg
pi@raspberrypi:~/pi/Desktop$ mkdir abcd
pi@raspberrypi:~/pi/Desktop$
```

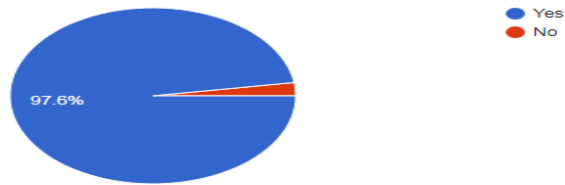




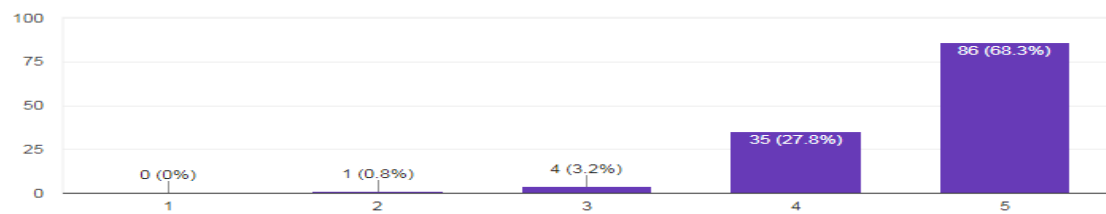
Feedback summary

Feedback Report by Participants

Do you need materials/Recordings of FDP?
124 responses

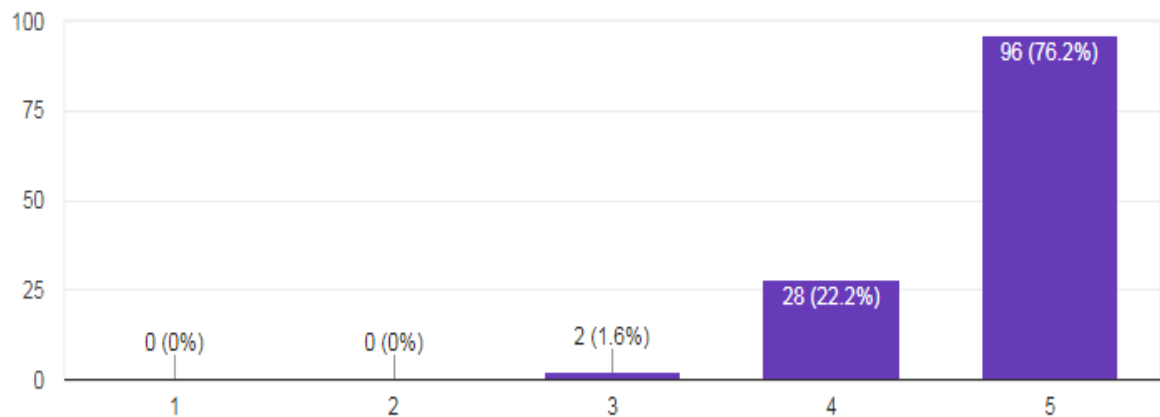


Contents of FDP
126 responses



Usefulness of FDP

126 responses



Any other suggestion

84 responses

Pls share the ppt and video of the fdp

none

Some time audio missing

It was a wonderful session

Excellent Sessions

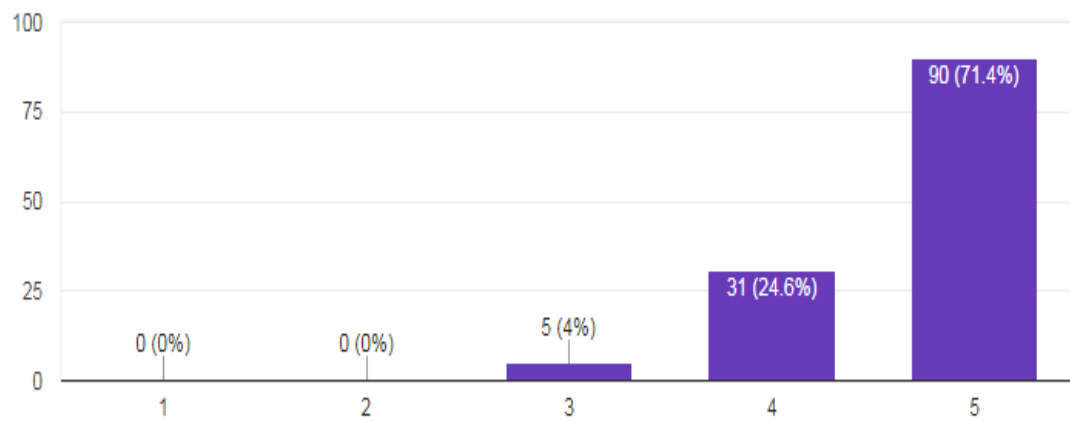
Great
need more

Wonderful

Good Fdp sessions

Delivery of contents by speaker

126 responses



E-certificate Sample



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TehieNest
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COMPUTER SOCIETY OF INDIA
ESTD. 1985

CERTIFICATE OF PARTICIPATION

This is awarded to

S. Suja Priyadharsini

from

Anna University Regional Campus - Tirunelveli

for attending four days National Level Faculty Development Programme on " IoT using Raspberry PI " organized by Department of Computer Engineering, Poornima Institute of Engineering & Technology, Jaipur from July 07-10, 2020.



DR. DINESH GOYAL
Director



MR. DEEPAK MOUD
Convener