

INTERNSHIP DETAILS

The duration of this Internship will be for 2 weeks (July 16-30, 2022 as per RTU calendar) & time will be 9 AM to 4 PM. A certificate regarding successful completion of internship (Submission of work report) shall be issued to the participants by the PIET AICTE IDEA LAB, Jaipur.

IMPORTANT DATES

Registration form submission start from **June 15, 2022**
Registration form deadline date **June 30, 2022**
Notification of Confirmation of the Internship **July 03, 2022**
Endorsement cum No Objection Certificate & internship fee deposit deadline **July 06, 2022**
Internship Starting & ending date for RTU Affiliated Colleges **July 18 to August 02, 2022** (As per RTU calendar) and for Private Universities **July 11-23, 2022**

CONSUMABLE CHARGES

Consumable Charges **Rs. 2000/-**
***Applicable for kit & consumables only**

INTERNSHIP ORGANIZING COMMITTEE

Dr. Dinesh Goyal, Principal & Director, Chief Mentor, PIET-AICTE, IDEA lab
Mr. Udit Mamodiya, Coordinator, PIET-AICTE, IDEA lab
Mr. Arun Kumar, Co-Founder, Sincgrid, Delhi
Mr. Satish Kumar, Production Head, Sincgrid, Delhi
Dr. Sama Jain, Professor, Department of Applied Science, PIET
Mr. Nitin Mukesh Mathur, Co-Coordinator, PIET-AICTE, IDEA lab
Mrs. Reshma Kala, Assistant Professor, PIET
Mr. Rajendra Singh, Assistant Professor, PIET
Mr. Pradeep Kumar, Assistant Professor, PIET
Mr. Laxman Singh Chauhan, Technical Officer, PIET
Mr. Mahendra Sharma, Technical Assistant, PIET
Mr. Vimal Jain, Technical Officer, PIET

REGISTRATION PROCESS

- Interested UG Students of Science and Engineering Stream can apply for the Internship through Internship Organizers (EOs) only.
- The applicant should send the following documents i.e.
 - Registration form
 - Endorsement cum No Objection Certificate for allowing the student to participate in internship, if selected, for "INTERNSHIP" in physical mode
 - UG marksheet or College ID card
 - Copy of Aadhar card
 - Submit ISTE/CSI/IEEE/ISLE membership certificate if applicable
- E-mail the scanned copy of the documents listed above to the internship organizer aicte.idealab@poornima.org on or 5th July 2022

ELIGIBILITY

Interested FIRST YRAR UG/ PG Students of Science and Engineering Stream can apply for the Internship. All private University & RTU affiliated College students are eligible for the summer internship in the domain of CS/ IT/ EC/ EE/ AI&DS/ CS(AI)/ ME/ CIVIL.

NATURE OF SUPPORT

Necessary expenses such as, stationery, consumables, project accessories etc. (related to project) for the participating students will be borne by PIET IDEA LAB through AICTE, ISTE, CSI, Jaipur Chapter funding support for the whole internship period.

SELECTION PROCEDURE

The selection of the eligible students for the INTERNSHIP will be done based on the recommendations of the Selection Committee constituted for this purpose by the PIET AICTE IDEA LAB, Jaipur.

TERMS AND CONDITION

- The interns would be assigned tasks /assignment as per the designed research program by the supervisor.
- The selected interns should work accordingly and submit work report to the supervisor after successful completion of the internship failing which no certificate will be issued.
- The IP rights of the research work shall be reserved by the institute which cannot be used by the intern without prior permission from the supervisor.
- The interns shall abide by the rules and regulations of the institutions and laboratory protocols.

FOR FURTHER INFORMATION

Mr. Udit Mamodiya
(Coordinator, PIET-AICTE, IDEA lab)
Call : **+91-9694802324**
Write to us: aicte.idealab@poornima.org
Address:
**ISI-2, RIICO Institutional Area,
Sitapura, Jaipur - 302022 (Raj.)**



FREE OF COST

Summer Internship Program

on

IoT based Product Development

(using Advanced Digital Manufacturing Equipment, Tools and Resources)

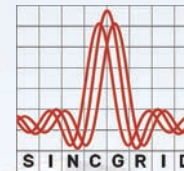
First Year: II Sem (As per RTU Curriculum)

For RTU Affiliated Colleges
July 18 to August 02, 2022

For Private Universities
July 11-23, 2022

In Association with

Co-Sponsored by



Organized by

PIET AICTE IDEA Lab



POORNIMA
INSTITUTE OF ENGINEERING & TECHNOLOGY

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

ABOUT POORNIMA INSTITUTE OF ENGINEERING & TECHNOLOGY

Poornima Institute of Engineering & Technology (PIET), Jaipur, affiliated to Rajasthan Technical University and approved by AICTE, established in the academic year 2007. The management makes sustained efforts to use education as an instrument for growth of economy and is the driving force & inspirational spirit behind the establishment of PIET. PIET aims at providing world class technical and scientific education which can develop a professional outlook in every walk of life.

Some key salient features are:

- State of Art of Infrastructure for innovative Teaching Pedagogy and ICT based learning.
- Offering four streams of Engineering (CE, AI & DS and Civil) at UG level.
- Accredited with NBA for B.Tech CSE 2020.
- Accredited with NBA for B.Tech Civil in 2019.
- NAAC Accredited institute from 2019.
- Rated as Platinum in Survey of Industry Linked Technical Institutes conducted by AICTE-CII.
- Ranked 3rd among all RTU affiliated colleges in Quality Index Value (QIV) assessment in academic year 2020-21
- Notable funding received from various Government and Private bodies (AICTE, RTU, IIHT, IMPACT, ZEETRON NETWORKS)

ABOUT PIET-AICTE IDEA LAB

The AICTE has launched a scheme with a huge funding of Rs. 50 lakhs to establish IDEA labs across India, and over 200 institutions have applied for it & it is proud moment to Poornima Institute of Engineering & Technology to receive this grant, as well as the only institution in Rajasthan to establish an AICTE-sponsored IDEA Lab for the training and development of students and society through hands-on learning on the latest technologies.

This lab is an Industry 4.0 Hi-tech lab facility available 24x7 on campus, encouraging more students and faculty to take on creative work and, in the process, receive training on creative thinking, problem solving, collaboration, and other skills that traditional labs do not focus on, in the domains of robotics, 3D printing, IoT, GIS, and bio-manufacturing!!

IDEA LAB is a R & D wing of PIET to cater to the various research needs of industries and would provide a great opportunity for industries and academia to use the advanced facilities. The major objectives of the PIET: AICTE IDEA LAB are to carryout research and development activities in the areas of IoT-based product development, Advanced Digital Manufacturing, testing and evaluation, product development and commercialization, along with facilitating research scholars and scientists to pursue research programs. The IDEA LAB has a full-fledged materials characterization facility with broad specialisation in product development and simulation. The centre will coordinate and provide centralised support and service to various academic and industrial institutions for their research needs.

Vision

IDEA Lab will be dedicated for up-gradation of the science & engineering education among students, faculty, Industry & its workforce, with the latest industry trends and practices, rendering the requirements of the rural population & upgrading skill-based learning of faculty, engineering students, schools in above said domains.

Mission

- To have Industry oriented Training & skill development and creativity.
- To increase more Innovative practices and creative research trend in all domains to generate more entrepreneurs from the Institution.
- To render Consultancies to Industry and develop this lab as small Manufacturing unit for the Industries.
- To facilitate Research and Social projects with the Industries & government agencies.

SCOPE OF THE SUMMER INTERNSHIP PROGRAM

IDEA LAB is the call for initiation and practise in science through summer internships. This summer internship aims to provide opportunities to promising PG, UG students from universities and colleges to get exposure and hands-on research experience. The scheme is meant to support regular UG/ PG level students who have a strong orientation and potential towards scientific and engineering research, but do not have the requisite infrastructure or expertise in their institutions, to get such exposure and motivation.

The Internet of Things (IoT) conceptualises the idea of remotely connecting and monitoring real world objects (things) through the Internet. When it comes to our house, this concept can be aptly incorporated to make it smarter, safer, and more automated. This type of project focuses on building a "SMART HOME AUTOMATION SYSTEM", which is mainly concerned with designing a system that allows users, upon authentication, to remotely control and monitor multiple home appliances using a cell-phone based interface. This type of IoT based project will be cover in summer internship.

INTERNSHIP OBJECTIVES

The objectives of the proposed internship are as follows:

- To introduce students to the field of engineering materials and their applications with respect to 3D printing & IoT
- To enable students in learning about advanced prototyping and manufacturing techniques such as 3D printing, 3D Scanner, Laser Cutter, IoT automation etc.
- Providing a platform for research-oriented candidates to kick-start their research career with innovative skill development.

Week-1: Topics Covered

Day-1

- Course Discussion and Outcomes
- Component kit distribution
- Demo and Hands On activity on Machines

Day-2

- Demo and Hands On activity on Machines
- First Half of the day on Software discussion

Day-3

- Demo and Hands On activity on Machines
- First Half of the day on Software discussion
- Second Half of the day on Hands Work
- Second Half of the day on Hands Work

Day-4

- EAGLE Software Distribution, Software Introduction and Schematic of CE Amplifier. Homework: CPO Schematic
- Board Layout of CE Amplifier. Homework: CPO Board Layout

Day-5

- Board Layout Verification and CPO Circuit Explanations
- Fabrication starts for CPO Board

Day-6

- Fabrication continues for the CPO board.
- Debugging and testing of the board.

Week-2: Topics Covered

Day-1

Getting Started with the Node MCU

- Introduction to Microcontroller/ IoT
- Tool Chain setup
- Demo Codes and Hands on activity
- Project discussion and topic distribution

Day-2

- MINI VOYAGER 1 and 2 Soldering
- Use of Peripheral board MV1 and MV2 with Node MCU

Day-3

- Designing overview of project
- Circuit and layout designing under IoT
- Completion of electronics part
- Fabrication of PCB
- 3D Casing design and fabrication

Day-4

- Designing and fabrication
- Circuit and layout designing
- Completion of electronics part
- Fabrication of PCB
- 3D Casing design and fabrication

Day-5

- Designing and fabrication
- Circuit and layout designing
- Completion of electronics part using IoT
- Fabrication of PCB
- 3D Casing design and fabrication

Day-6

- Project Evaluation

TENTATIVE LIST OF PROJECTS (But not limited to)

S. No.	Project Name	Objective
1	Smart Mood Lamp	Making a mood lamp which can be remotely controlled
2	Smart Switch with IoT	Touch and remote control-based switch for homes
3	Home Automation	Controlling appliances remotely and scheduling different loads
4	Sensor Network on IoT	Gathering data from various Sensor Nodes and displaying remotely
5	Customised Memento	A digital memento to display data and indicate sensor data
6	Electronic Visiting Card	Electronic form of a visiting card which contains contact data and other details
7	IoT based Security System	Using sensor data to check for any intrusion and alerts
8	Motion Capture Device	Get motion analytics of a given device. Attach the project and get various kind of device data.