



# POORNIMA

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## COLLEGE OF ENGINEERING

Approved by AICTE  
Affiliated to Rajasthan Technical University, Kota  
Recognized by UGC under Section 2(f) of the UGC Act, 1956

### *New Development & Initiatives*

- ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)
- Phone: +91-9829255102, +91-9414728922 • E-mail: [principal.pce@poornima.org](mailto:principal.pce@poornima.org)
  - Website: [www.pce.poornima.org](http://www.pce.poornima.org)

  
Dr. Mahesh Bundele  
B.E., M.E., Ph.D.

Director

Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR

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**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR

# *1. Number of MoUs - Collaborations*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR

<i>Number of MoUs, collaborations during the last five years</i>				
<b>Sr. No.</b>	<b>Name of the MoU / Collaboration</b>	<b>Name of the collaborating agency / institution / industry / corporate house with whom the MoU</b>	<b>Year of signing MoU / collaboration</b>	<b>Duration of MoU / collaboration</b>
1	Innovationa and Entrepreneurship	Quantumbit Technologies Private Limited	16-May-22	15-May-23
2	Channels communication and co-operations	Vigyan Bharti Rajasthan	13-May-22	Valid until it is expressly terminated by either party
3	Research and Patent	WEGROW, Odisha	28-Apr-22	27-Apr-23
4	Robotic Research, AI and Industrial Automation	Elektrolites (Power) Pvt. Ltd.	27-Apr-22	26-Apr-25
5	Robotic Research, AI and Industrial Automation	HUMBOT Pvt. Ltd.	22-Mar-22	3 years
6	On Friendship and Cooperation, Promotion of Mutual Understanding, Academic, Cultural and Scientific Thought and Personnel Exchange	Universiti Teknologi Mara, Malasiya	15-Nov-21	14-Nov-24
7	Skill Development, Personality Development and Career Mentoring	Siemens Centre of Excellence, NIT, Kurukshetra	25-May-21	24-May-24
8	Academic and Development Programs	RI Instruments and Innovation Pvt. Ltd., Uttarakhand & RINZTECH, New Zealand	27-Feb-21	The agreement shall be valid for a period of 5 years from the date both signatures
9	R&D and Training Placement activities	Government Engineering College, Dahod	7-Jan-21	06-Jan-26
10	Use of Resources	SAP, Germany	1-Nov-20	Valid until it is expressly terminated by either party
11	Use of Resources	Zumosun Soft Invention Private Limited	28-Oct-20	Valid until it is expressly terminated by either party
12	Use of Resources	Kamal Cogent Energy	10-Oct-20	Valid until it is expressly terminated by either party
13	Channels communication and co-operations	Advance Valves Pvt Ltd.	3-Sep-20	Valid until it is expressly terminated by either party

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Poornima College of Engineering  
 ISI-6, FIICO Institutional Area  
 Sitapura, JAIPUR



14	Use of Resources	IOTomation Ecotech Pvt. Ltd.	28-Jan-20	Valid until it is expressly terminated by either party
15	Use of Resources	MEPa2zLLP	11-Jan-20	Valid until it is expressly terminated by either party
16	Technical Awareness	Coding Ninjas	23-Dec-19	22/12/2020
17	Use of Resources	Rapidops Solutions Pvt. Ltd., Ahmedabad	5-Dec-19	Valid until it is expressly terminated by either party
18	Microsoft Azure Academic Program	Celebal Technologies	2-Dec-19	Valid until it is expressly terminated by either party
19	Channels communication and co-operations	Confederation of Indian Industry(CII)	9-Oct-19	10-Oct-20
20	Use of Resources	Latashri 3D Creations, Jaipur	1-Sep-19	Valid until it is expressly terminated by either party
21	Use of Resources	Revy Environment Solutions Pvt. Ltd., Vadodara	10-Aug-19	Valid until it is expressly terminated by either party
22	Channels communication and co-operations	B.L. Kashyap & Sons. Ltd., New Delhi	27-May-19	Valid until it is expressly terminated by either party
23	Skill Development, Personality Development and Career Mentoring	The Teampreneur, Jaipur	30-Apr-19	Valid until it is expressly terminated by either party
24	Channels Communication and co-operation	Aircon Engineers Pvt. Ltd., New Delhi	27-Apr-19	Valid until it is expressly terminated by either party
25	Redhat Academy Program	Redhat India Pvt. Ltd., Mumbai	26-Mar-19	Valid until it is expressly terminated by either party
26	Campus Connect Program	Infosys, Bangalore	5-Mar-19	Valid until it is expressly terminated by either party
27	Workshops & Training	Industrial Hub Technologies (IHT), Jaipur	1-May-18	1-Jun-19
28	For Workshop & Training for EC Department	Soha Technologies Pvt. Ltd., Jaipur	1-Aug-16	July, 2018

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Peernima College of Engineering  
 ISI-6, FIICO Institutional Area  
 Sitapura, JAIPUR

## *2. Center of Excellence in Artificial Intelligence and Big Data*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



**OFFICE OF THE DEAN ACADEMIC AFFAIRS  
RAJASTHAN TECHNICAL UNIVERSITY**

**AKELGARH, RAWATBHATA ROAD, KOTA-324010**

**Ph-0744- 2473015, website : www.rtu.ac.in, email : dean.academic@rtu.ac.in**

**RTU/Acad./F(17)14/2021/3646**

**Date: 28.06.2021**

To  
Principal/Director  
Poornima College of Engineering  
ITS-1, IT Park, EPIP Sitapura  
Jaipur-302028

**Sub:** Recognition of Centre of Excellence in **Artificial Intelligence and Big Data.**

**Ref.:** 1. University letter no. RTU/F(17)Acad./2020/1414-15, dtd. 30.09.2020.  
2. Your proposal dtd. 23.04.2021.

Sir

With reference to University call for proposals for establishment of Centre of Excellence, your application for recognition of Centre of Excellence in the area of **Artificial Intelligence and Big Data** was considered. On the recommendation of Expert Evaluation Team and subsequent approval of 68<sup>th</sup> Board of Inspection vide agenda no. 66.3, University has recognised the Centre of Excellence in the area of **Artificial Intelligence and Big Data** at your institute.

The modalities of operation for Centre of Excellence shall be communicated in due course of time.

Yours sincerely

**(Prof. D.K. Palwalia)**  
Dean, Academic Affairs

**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ITS-1, EPIP Institutional Area  
Sitapura, JAIPUR



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**Vision:** To be the leading research institute in the Area of AI & Big Data in the state of Rajasthan and upliftment of other institutions and their stakeholders.

### Objectives of setting up RTU COE in AI & Big Data:

1. To impart knowledge about AI & Big Data to the students and the faculty from the institutions across Rajasthan.
2. To make the resources available to advanced learners and researchers for developing solution to any societal, industrial and environmental applications using AI & Big Data.
3. To create project-based learning environment in and around the institute across the state of Rajasthan.

### Physical Resources Available

#### 1. Artificial Intelligence Lab I:

This lab is established in the year 2017 in a space of 1500 Square Feet having:

**Hardware:** Lenovo Think Station P310, Microsoft Windows 10 Pro, Intel(R) Core (TM) i5- 6400CPU @ 2.70GHz, 2712 MHz, Core(s), 4 Logical Processor(s) and Memory (RAM) 8.00GB [72 Nos.]

**Software:** All open-source AI & Big Data tools with an access to virtual processing and software resources.

**IBM Tools & Access-** Cognos, BI, Bluemix

#### 2. Artificial Intelligence Lab II:

This lab is also established in the year 2017 in a space of 600 Square Feet having:

**Hardware:** Lenovo Think Station P310, Microsoft Windows 10 Pro, Intel(R) Core (TM) i5-6400CPU @ 2.70GHz, 2712 Mhz, Core(s), 4 Logical Processor(s) and

Centre of Excellence (COE) in AI & Big Data

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



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Memory (RAM) 8.00GB. [42 Nos.]

Raspberry Pi Model 3, with case and NOOBS on Micro SD 16 GB Card, Sensors and other accessories. [50 Nos]

**Software:** All open-source AI & Big Data tools with an access to virtual processing and software resources.

**IBM Tools & Access-** Cognos, BI, Bluemix.

### 3. Training and Learning Provisions:

- Well-furnished meeting room with TV screen for video conferencing.
- Furnished Training room with Projector, Screen, White Board and furniture.
- Working and learning space furnished with tables, chairs, power plugs and internet connectivity.

## Virtual Resources

### 1. In collaboration with IBM

Artificial Intelligence Lab I and II were established in the year 2017 when Poornima College signed MoU with IBM to train students and faculty in the area of Cloud Computing and IoT. Since 2017 students and faculty members are being trained in following three areas;

- a. Internet of Things (IOT) Lab for Application Development & Deployment using IBM BlueMix;
- b. Cloud Computing Lab for App Development & Deployment for Cloud using IBM BlueMix;
- c. Business Intelligence Lab for Learning Business Intelligence using IBM Cognos BI;
- d. Participant are able to use the IBM software in the lab for their non-commercial research interests;
- e. Participant receive the printed course material
- f. Participant have access to various IBM online forums for additional study material

Centre of Excellence (COE) in AI & Big Data

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR





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and resources to interact with experts & participate in discussions;

- g. Participants receive certification from IBM at the completion of the course;
- h. IBM Experts provide real world challenges for project experience & also mentor the participants through the various phases of these projects.

### ***Application Development and Deployment for Cloud using IBM Bluemix:***

Built on Cloud Foundry open-source technology, Bluemix makes application development easier with Platform as a Service (PaaS). Bluemix also provides prebuilt Mobile Backend as a Service (MBaaS) capabilities.

### ***Learning Business Intelligence using IBM Cognos:***

BI Module 1: IBM Cognos Insight: Analyze and Share Module 2: IBM Cognos Business Intelligence Advance.

### ***IoT Application Development and Deployment using IBM BlueMix:***

All the students of II, III- and IV-year's students of all disciplines are opting for any one option every year and are being trained.

## **2. In Collaboration with Microsoft:**

MoU has been signed with Celebal Technologies Jaipur in January 2020 to get access to Microsoft processing resources and tools.

Celebal Technology Jaipur is in general collaborating with Poornima College of Engineering from 2018 in terms of training and hiring the students.

Microsoft resources available to the students and faculty are;

- Virtual Machines, Azure Tools and Services
- 5TB Blob Storage, Azure Credits for Azure services, AI/ML/DL Tools access
- High End Virtual Machines and Azure Credits with latest Data Science, AI and Deep Learning Tools
- Learning of multiple aspects and languages like: Big Data, Chatbots, Enterprise Integration, Python, Databricks, Power BI, Power Apps



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- 5TB Blob Storage
- Microsoft Azure Certifications by faculty and students
- App Service Plan
- Application Insight
- SQL Database
- Azure Data Factory
- SQL Server
- Azure Database for MySQL
- Web App Bot
- App Service
- Azure Synapse
- Azure Consumption: 60,000 Units for year 2021

### 3. SAP: MoU with SAP University Alliance

Poornima College of Engineering has signed MoU with SAP University alliance in January 2021 for utilizing SAP online resources to train faculty and students.

Training resources are as under;

- Overview of SAP's vision of the Intelligent Enterprise
- Basic concepts of an ERP solution based on S/4HANA system
- SAP Fiori User Interface to interact with the S/4HANA system
- Case studies provided to understand various business processes.
- Business simulation games for SAP S/4 HANA
- Help improve knowledge of business processes



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- Dynamic environment where it accelerates time, simulates interactions with businesspartners, & automates administrative tasks execution to understand how ERP systemsare effective at managing business processes.
- Faculty training is in progress and soon we are going start student training on SAP.

### Research Facilities

S. No	Name of Equipment/ Software	Laboratory	Quantity	Cost	Bill no. & Date
1	Raspberry Pi Model 3, with case	IOT Lab (COE)	30 Pcs.	114,000.00	116 31-10-2017
2	<b>Operating System:</b> Microsoft Windows 10 Pro  Lenovo Think Station P310, Intel(R) Core (TM) i5-6400 CPU @ 2.70GHz, 2712 Mhz, Core(s), 4 Logical Processor(s)  <b>Memory (RAM):</b> 8.00 GB <b>HDD:</b> 1 TB	IOT Lab (COE)	42	1919400.00	BDCS/16-17/1594  BDCS/16-17/1595 (2285000 Rs for 50 PCs)
3	<b>GPU Server:</b> Dell Power Edge R 750 Server CLX 4208 2P 8C/16T 2.1G 11M 9.6GT 85W 3647 R1 32GB 2933MHz DDR4 RAM NVIDIA A100 40GB Passive card	Computer Vision Lab (COE)	1	19,48521.00	Voucher No. 58
4	<b>Higher Configuration Desktop with Graphic Card</b> Intel Core i7 10700 F X 2 Cooler Master Cabinet SMPS 600-watt Cooler Motherboard Gigabyte	Computer Vision Lab (COE)	2	2,12,457.62	BDCS/5573/21-22





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	B560M DS3H AC X 2 RAM 16 GB DDR4 2656 8TB HDD Seagate 500 GB SSD Graphic card 8gb 3050 Gaming RTX				
5	<b>FujiFilm-FX-X-100V S-EE Digital Rangefinder Camera</b>	Computer Vision Lab (COE)	1	1,06,245.76	BDCS/5573/21-22
6	<b>BASLER ACE GIGE Camera</b>	Computer Vision Lab (COE)	1	1,40,000.00	BDCS/5573/21-22
7	<b>Einscan Pro 2X 2020 + Solid Edge Software, Multifunctional 3D Scanner</b>	AI & Big Data Lab (COE)	1	713,900	IN21-22-088 30-03-2022

### Library Resources

We have subscription to following library resources those are being used by the faculty and students while doing projects and R&D in AI and Big Data.

- IEEE IEL Online full subscription
- DELNET
- ASME for Mechanical Engineering
- J-Gate
- Scopus
- Turnitin Plagiarism check software



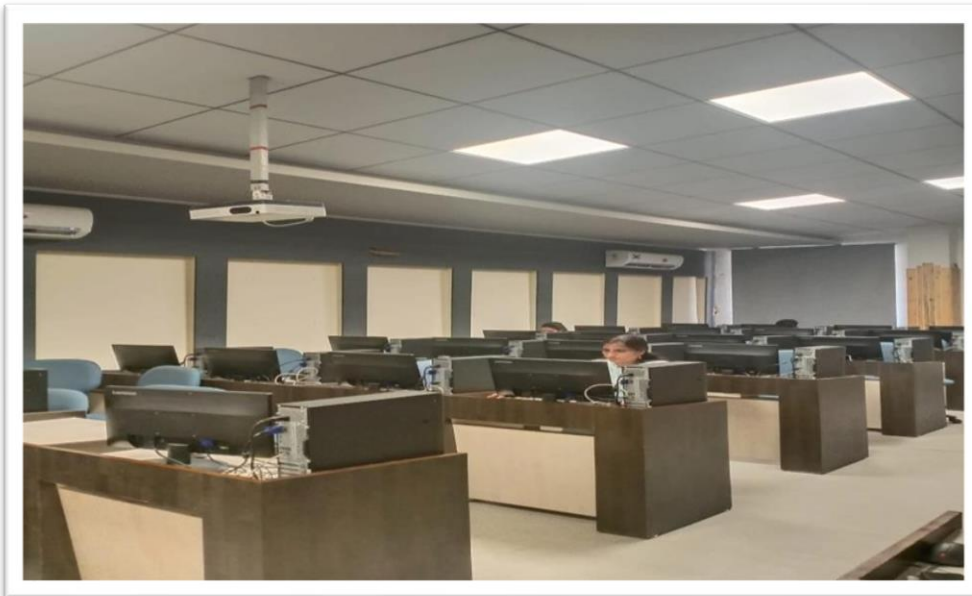
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### INFRASTRUCTURE PICS



AI Lab 1



AI Lab 2

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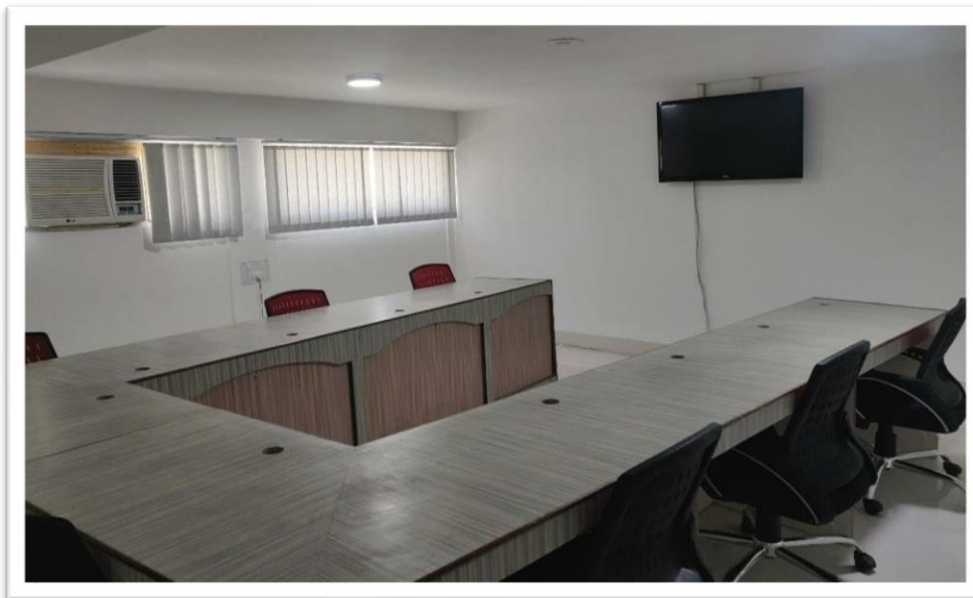


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**Centre First Floor Entry**



**Meeting Room**

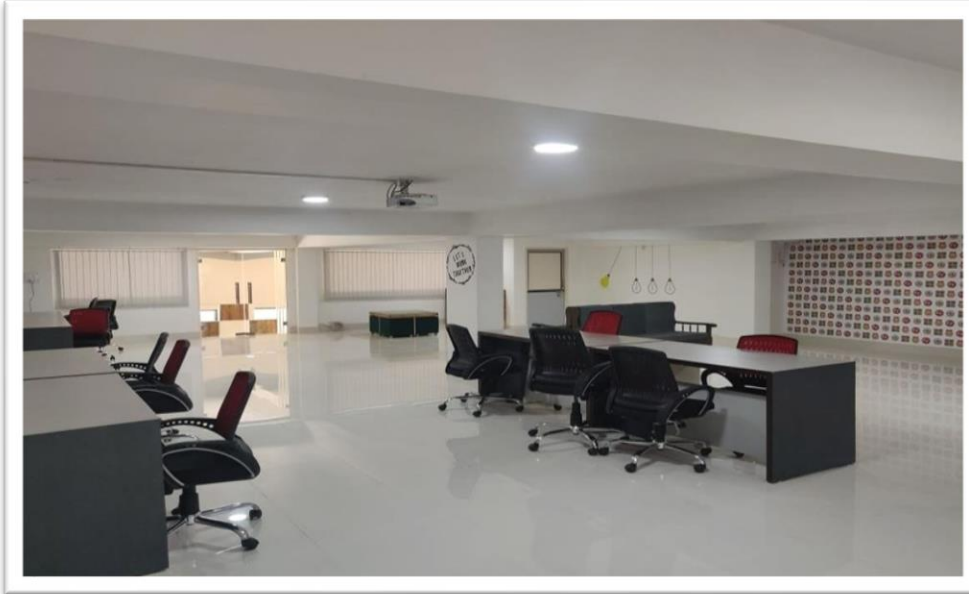
Centre of Excellence (COE) in AI & Big Data





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**Working Space**



**Reference Section**



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**Digital Rangefinder Camera & DSLR Cameras:**



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### 3D Scanner AI & Big Data Lab (COE)

Centre of Excellence (COE) in AI & Big Data

### ***3. IBM Software Lab for Emerging Technologies***

***(IBM Career Education Program)***

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



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### IBM Software Lab for Emerging Technologies (IBM Career Education Program)

#### A. INTRODUCTION

Poornima College of Engineering signed a MoU with IBM under its Career Education Program in May-2017 to develop required industry needed skills in students on emerging areas of the following IBM software technologies/ courses.

1. **Application Development and Deployment for Cloud using IBM Bluemix**
2. **Learning Business Intelligence using IBM Cognos BI**
3. **IoT Application Development and Deployment using IBM BlueMix**

IBM and PCE, acknowledge the need for IBM Software skills, in the IT education and training sector. The objective is to have a number of graduating professionals skilled on IBM Software. Under this MoU, both IBM Career Education and PCE are keen to cooperate in a way that shall benefit PCE students pursuing a career in the industry.

As part of the MOU, the **Faculty Enablement Programs** were conducted by IBM subject matter experts in June-2017 and December-2017 to train the faculty members on above mentioned three IBM courses. The details of the FEPs is given in the following table.

#### Faculty Enablement Programs under IBM Software Lab for Emerging Technologies

Training Program/ IBM Course	Date/ Duration	IBM Subject Matter Expert	Participants
Applications development for Cloud Deployment using IBM BlueMix	19 <sup>th</sup> June to 23 <sup>rd</sup> June, 2017	Mr. Anupam Gupta Application Consultant	Selected faculty members of PCE
Learning Business Intelligence using IBM Cognos BI	19 <sup>th</sup> June to 23 <sup>rd</sup> June, 2017	Mr. Pratyush Praveen - Practice Manager - Business Analytics	Selected faculty members of PCE
IOT Application Development and Deployment using IBM BlueMix	4 <sup>th</sup> Dec. to 7 <sup>th</sup> Dec. 2017	1. Mr. Krishan Kumar, Senior Software Consultant - IBM India Software Labs 2. Mr. Girish Chandra, Software Consultant - IBM India Software Labs	Selected faculty members of PCE

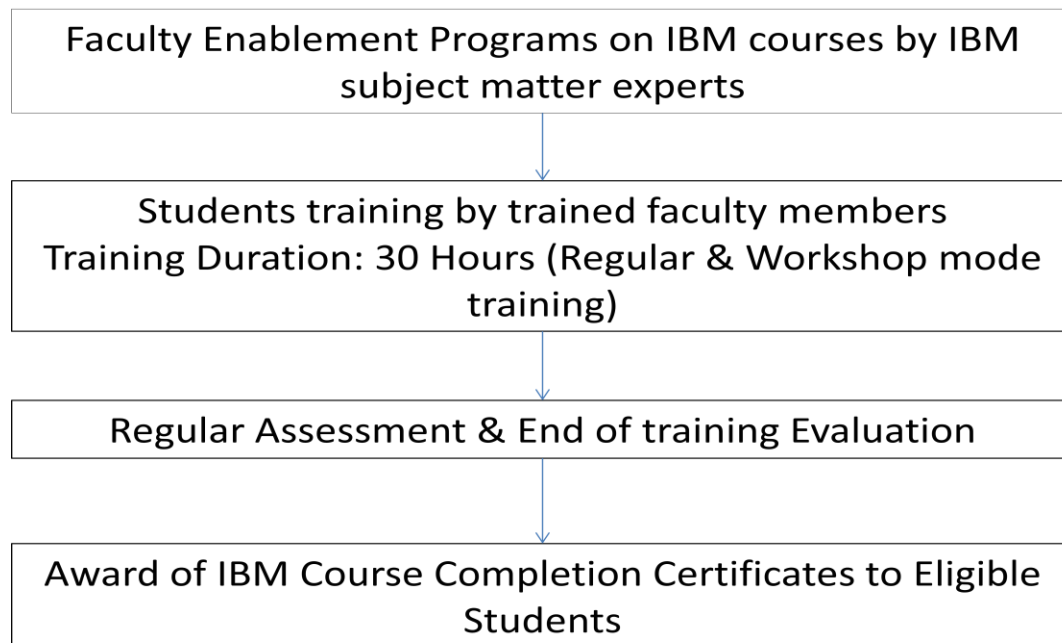
  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



The trainings on above three IBM programs were imparted to the students in workshop mode or on weekly basis along with regular academics. The faculty members who were trained by IBM experts on these three platforms conducted the trainings for the students with the support of study material provided by IBM. The training duration of each course was 30 hours, which was divided into basic and advanced modules.

## **B. THE PROCESS OF IBM CAREER EDUCATION TRAINING**



## **C. BRIEF INTRODUCTION ABOUT IBM CE COURSES**

### **1. Application Development and Deployment for Cloud using IBM Bluemix**

IBM Bluemix is IBM's cloud computing platform that offers mobile and web developers access to IBM software for integration, security, transactions, and other key functions, as well as software from business partners.

Built on Cloud Foundry open source technology, Bluemix makes application development easier with Platform as a Service (PaaS). Bluemix also provides prebuilt Mobile Backend as a Service (MBaaS) capabilities.

The goal is to simplify the delivery of an application by providing services that are ready for immediate use and hosting capabilities to enable internal scale development.

Following are the advantages of IBM Bluemix cloud platform -

- A range of services that enable you to build and extend web and mobile apps fast
- Processing power for you to deliver app changes continuously
- Fit-for-purpose programming models and services
- Manageability of services and applications
- Optimized and elastic workloads
- Continuous availability

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

## Course Outcomes

### At the end of the course, student will be able to

- Run the application on the web and will be able to administer (stop, start and monitor) via the Bluemix user interface
- Run the application on the web and will be able to administer (stop, start and monitor) via cloud foundry command line interface, instead of an eclipse Bluemix plug-in.
- Create any web application and use the SQL DB as a backend.
- Manage the cloud resources i.e. increase and decrease the cloud resources in terms of memory, CPU Utilization etc.
- Create a live chat application using Watson through Bluemix.
- Create different types of language translator like Google translator using Watson through Bluemix
- Develop the cloud services like SAAS and store the huge data on the cloud.
- Control the different home appliance through the mobile.
- Create and run the mobile application via Bluemix.

## Prerequisites of the course

The course is aimed for B. Tech. students of Computer Science/ IT/ EC branches. Basic knowledge of programming including web development is required. The course has a set of primers to help bridge the gaps of cloud computing and programming environments.

## 2. Learning Business Intelligence using IBM Cognos BI

IBM® Cognos® Business Intelligence is an integrated business intelligence suite that provides a wide range of functionality to help you understand your organization's data.

Everyone in an organization can use IBM Cognos BI to view or create business reports, analyze data, and monitor events and metrics so that they can make effective business decisions.

IBM Cognos BI integrates the following business intelligence activities in one Web-based solution.

**Module 1:** IBM Cognos Insight: Analyze and Share

**Module 2:** IBM Cognos Business Intelligence Advance

## Course Outcomes

### At the end of the course, student will be able to

1. Explore information freely, analyze key facts, collaborate to gain alignment with key stakeholders and make decisions for better business outcomes
2. Access reports, analysis, dashboards, scorecards, planning and budgets, real time information, statistics and manage information for more informed decisions.
3. Integrate the results of 'What-If' analysis modeling and predictive analytics into a unified workspace to view possible future outcomes alongside current and historical data
4. Work with business intelligence capabilities for the office and desktop, on mobile devices, online and offline.
5. Work with scalable and extensible solution that can adapt to the changing needs of IT and the business with flexible deployment options that include the cloud, mainframes and data warehousing appliances.

## Prerequisites of the course

The course is aimed for B. Tech. students of Computer Science/ IT/ EC and other branches. Basic knowledge of programming and database fundamentals is assumed. To aid the students of

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.

Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

different streams, the course has a set of primers to help bridge the gaps of programming as well as database related concepts.

### 3. IoT Application Development and Deployment using IBM BlueMix

The Internet of Things (IoT) is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect and exchange data creating opportunities for more direct integration of the physical world into computer-based systems, resulting in efficiency improvements, economic benefits, and reduced human exertions.

Embedded with technology, these devices can communicate and interact over the Internet, and they can be remotely monitored and controlled.

#### Course Outcomes

**At the end of the course, student will be able to**

1. Setup the Raspberry Pi, Node.js and familiar with working in the Linux environment
2. Use Node.js environment to make Raspberry Pi blink
3. Learn Node-RED installation, gain familiarity with Node-RED UI and its elements, and acquire basic proficiency in creating Node-RED flows
4. Gain familiarity with the Bluemix IOT services, its UI/ navigation and deploy a Node-RED application on Bluemix
5. Understand devices and gateway registration process and explore the world of sensors in Node-RED environment with Raspberry Pi.
6. Develop and deploy Node-RED applications as prescribed in the coursework on Bluemix
7. Function effectively in a team during training/ project work, prepare and present reports.

#### Prerequisites of the course

The course is aimed for B. Tech. students of Computer Science/ IT/ EC and other branches. Basic knowledge of programming and electronics fundamentals is required. To aid the students of different streams, the course has a set of primers to help bridge the gaps of hardware concepts as well as programming environments.

#### D. ENROLMENT CRITERIA

The duration of the course is 48 hours and was offered to different branches of students in regular and workshop modes as per the table given below.

Branch/ Tech.	IBM Bluemix for Cloud	IBM Cognos for BI	IoT
CSE	2 hours per week classes in regular mode in II & III Years	2 hours per week classes in regular mode in II & III Years	Workshop mode
IT	2 hours per week classes in regular mode in II & III Years	2 hours per week classes in regular mode in II & III Years	Workshop mode
EC	2 hours per week classes in regular mode in II & III Years	Not Applicable	Workshop mode
EE	Not Applicable	Workshop mode	Workshop mode
ME	Not Applicable	Workshop mode	Workshop mode
Civil	Not Applicable	Workshop mode	Workshop mode

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.

Director

Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR

## **E. CERTIFICATION CRITERIA**

- a. There were two kinds of certificates for participating in IBM programs.
  - i) IBM certificates
  - ii) Poornima certificates (3 times in number of IBM certificates)
- b. Certificates were awarded on merit basis and evaluation was done on the basis of the following parameters.
  - i) Attendance (minimum 80%)
  - ii) End course evaluation (MCQ based test)

## **F. COURSE CONTENTS/ MODULES**

**Enclosed (Annexure-1)**

## **G. Branch wise count of IBM Certificates awarded to students in each of the Session 2017-18, 2018-19, 2019-20**

Department wise count of IBM Certificates of students (Session 2017-18)								
Year	IBM Course	CS	EC	IT	EE	Civil	ME	Tot
IV (2018 Batch)	IBM CE – Learning Business Intelligence using IBM Cognos BI	10	2	5	4	3	0	24
III (2019 Batch)	IBM CE – Learning Business Intelligence using IBM Cognos BI	NA	NA	NA	2	0	5	7
IV (2018 Batch)	IBM CE–Application Development and Deployment using IBM Bluemix	13	6	6	NA	NA	NA	25
III (2019 Batch)	IBM CE–Application Development and Deployment using IBM Bluemix	9	4	4	NA	NA	NA	17
III (2019 Batch)	IBM CE–IOT Application Development and Deployment using IBM Bluemix	10	10	4	6	3	5	38
Total		42	22	19	12	6	10	111

Department wise count of IBM Certificates of students (Session 2018-19)  
(2020 Batch Passout Students)

IBM Course	CS	EC	IT	EE	Civil	ME	Total
IBM CE–Application Development and Deployment using IBM Bluemix	22	10	10	NA	NA	NA	42
IBM CE – Learning Business Intelligence using IBM Cognos BI	10	NA	5	7	3	6	31
IBM CE–IOT Application Development and Deployment using IBM Bluemix	10	10	4	6	3	5	38
Total	42	20	19	13	6	11	111

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
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Department wise count of IBM Certificates of students (Session 2019-20)  
(2021 Batch Passout Students)

IBM Course	CS	EC	IT	EE	Civil	ME	Total
IBM CE–Application Development and Deployment using IBM Bluemix	22	10	10	NA	NA	NA	42
IBM CE – Learning Business Intelligence using IBM Cognos BI	11	NA	6	6	3	5	31
IBM CE–IOT Application Development and Deployment using IBM Bluemix	10	10	4	6	3	5	38
Total	43	20	20	12	6	10	111

**H. Number of students participated in IBM training & IBM Certificates Awarded during sessions 2017-18, 2018-19 & 2019-20**

Enclosed (Annexure-2)

**I. Projects developed by students during IBM training**

**IBM Bluemix for Cloud Computing**

- Cloud Based Attendance System
- Cloud Based Student Information Chatbot Project
- Online Bookstore System On Cloud Infrastructure
- Cloud Based Online Blood Bank System
- E-Learning Platform using Cloud Computing
- Cloud Based Local Train Ticketing System

**IBM Cognos for BI**

- Result analytics
- Employee analytics
- Attendance analytic
- A map that visualizes election polling by state.
- A tool that predicts the stock market
- Real Estate price prediction
- Recommendation System-help customer to choose right product
- Twitter Analytics
- Medicare Hospital Quality analytics

**IoT based Projects**

- Weather Monitoring System using IoT:
- Smart Irrigation System using IoT:
- Smart Building using PIR & IoT Project:
- Smart Water Metering using IoT project:
- IOT Based Home Automation System:
- IoT Home Security Model:
- Motion Controlled Servos using IoT:
- Smart Trash Can using IoT:
- E-Health Gloves using IoT:

  
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B.E., M.E., Ph.D.  
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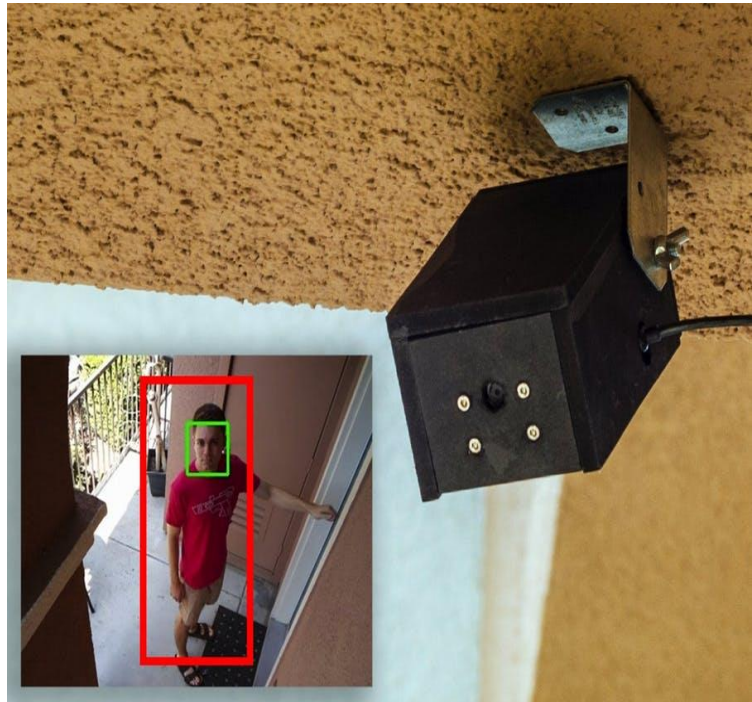
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## Snapshots of some of the IOT based projects

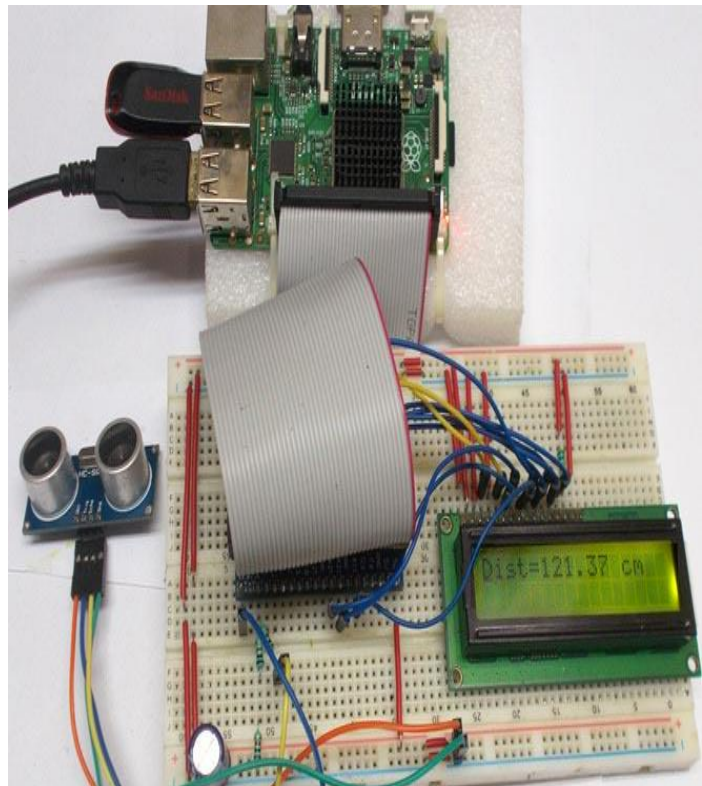
### (i) Smart home security by pi-camera

**Project Team:**  
Urvika (IV-Year EC)  
**Tools Used :**  
1.Raspberry-Pi  
2.pi-Camera



### (ii) Obstacle Detection

**Project Team:**  
Shreya ,Supriya,  
and Shivendu  
(IV-Year EC)  
**Tools Used :**  
1.Raspberry-Pi  
2.Ultrasonic  
sensor  
3.LCD-16 x 2



  
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B.E., M.E., Ph.D.  
Director

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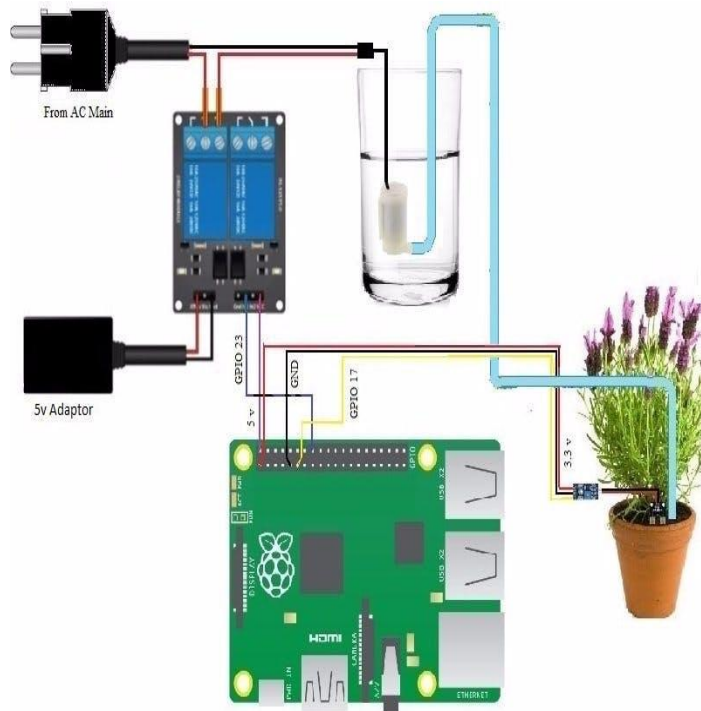
### (iii) Smart Irrigation System

#### Project Team:

Ishita, Mriganka  
(IV-Year EC)

#### Equipment used :

1. Raspberry-Pi
2. Rectifier diode
3. Relay
4. Soil moisture sensor
5. Water pump



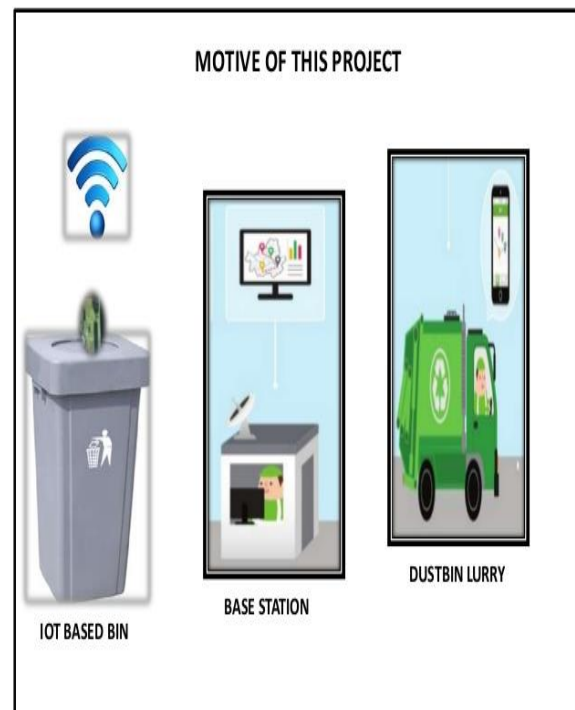
### (iv) Real Time Smart City Garbage Collection and monitoring

#### Project Team:

Rashmi Dhakad  
(IV-Year CS)

#### Equipment used :

1. Raspberry-Pi
2. Ultrasonic sensor
3. LCD 16 x 2



*Dr. Mahesh Bundele*  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

## *4. Establishment of Computer Vision Lab*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR



Computer vision is the science and technology of machines that can see. As a scientific discipline, computer vision is concerned with the theory behind artificial systems that extract information from images.

Computer vision works much the same as human vision, except humans have a head start. Human sight has the advantage of lifetimes of context to train how to tell objects apart, how far away they are, whether they are moving and whether there is something wrong in an image. The Computer Vision Lab (CVL) is a multidisciplinary group performing basic and applied research in image manipulation, image analysis, computer vision and related areas of machine learning. The image data can take many forms, such as video sequences, views from multiple cameras, or multi-dimensional data from a high end scanner. As a technological discipline, computer vision seeks to apply its theories and models to the construction of computer vision systems.

Various research areas includes: Applications in Display Technology, Computer Vision for Navigation, Metrology, High Level Video Analysis, and Human Computer Interfaces. Pharmaceutical bio-mathematical modelling, Signal and System theory.

Our work focuses on explaining visual data for Computer Vision, Computer Graphics and various Image Analysis, through the appropriate physical and statistical models.

A central interest is in modelling the interaction of 3D shape and illumination.

In this Lab students are assigned different domain images and they are asked to perform the image processing tasks. The students work on Open-source software's and data set and perform the needed experiments to come to the desired result.

## Lab Facilities

### Hardware and software facilities includes following

- **Cameras --** Digital Rangefinder Camera & DSLR Camera –  
Sony - Full HD 1920 x 1080 / 60i Recording, Capture 5.3 Megapixel Still Images, Camcorder Features Built-In Projector, Projects Up to 100" (Diagonal) Screen
- **Higher Configuration Desktop with Graphic Card** Intel Cori7 10700 f Cooler Master Cabinet SMPS 600 watt Cooler Motherboard Gigabyte B560 gaming RAM 16 GB Ddr4 GS kill / HDD 1 TB SATA Seagate 500 GB NVMe WD SSD Graphic card 8gb 3050 inno3d Monitor 22 " Dell 21
- **GPU Server:** Dell Power Edge R 750 Server CLX 4208 2P 8C/16T 2.1G 11M 9.6GT 85W 3647 R1 32GB 2933MHz DDR4 RAM NVIDIA A100 40GB Passive card
- **Software Tools**— OpenCV, Viso Suite, TensorFlow, CUDA, MATLAB, Keras, SimpleCV, BoofCV,

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR

### Digital Rangefinder Camera & DSLR Cameras:



### GPU Server:



### Higher Configuration Desktop with Graphic Card (Computer Vision Lab :)



  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

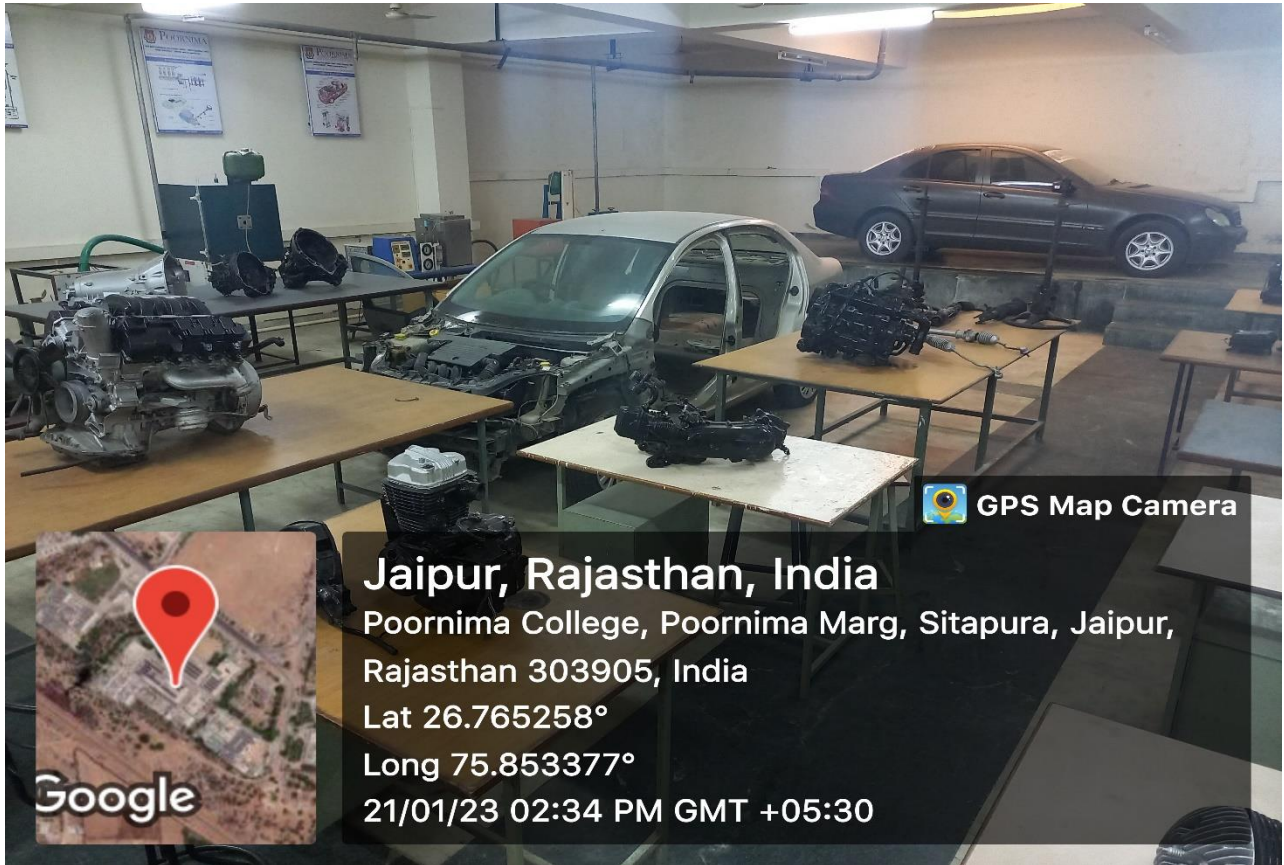
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## ***5. Establishment of Advance Automobile Lab (Baba Automobile Pvt. Ltd)***

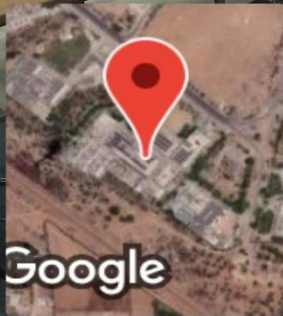
  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

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GPS Map Camera



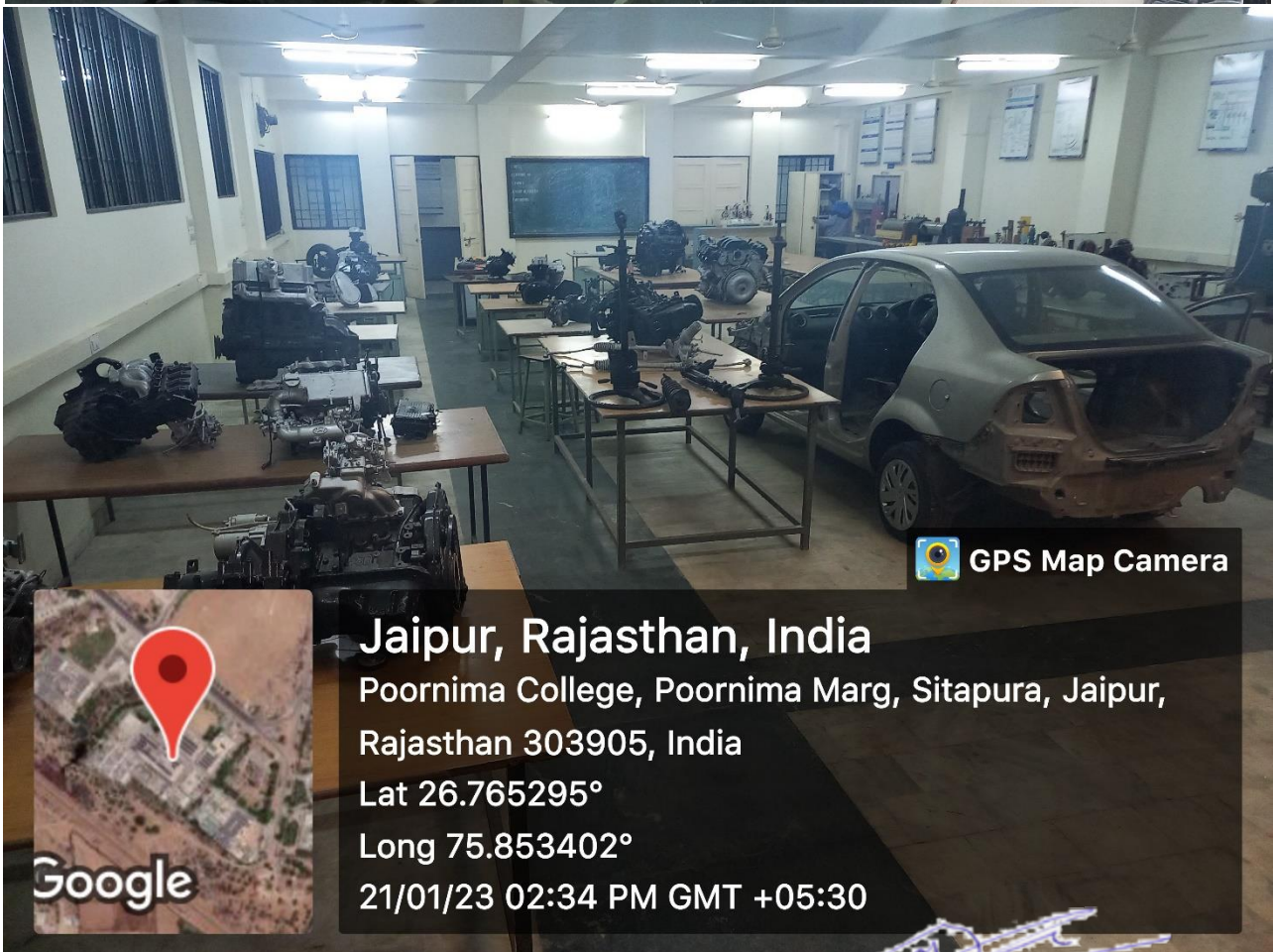
**Jaipur, Rajasthan, India**

Poornima College, Poornima Marg, Sitapura, Jaipur,  
Rajasthan 303905, India

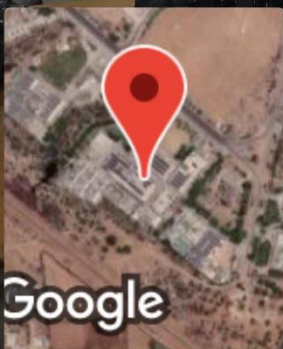
Lat 26.765258°

Long 75.853377°

21/01/23 02:34 PM GMT +05:30



GPS Map Camera



**Jaipur, Rajasthan, India**

Poornima College, Poornima Marg, Sitapura, Jaipur,  
Rajasthan 303905, India

Lat 26.765295°

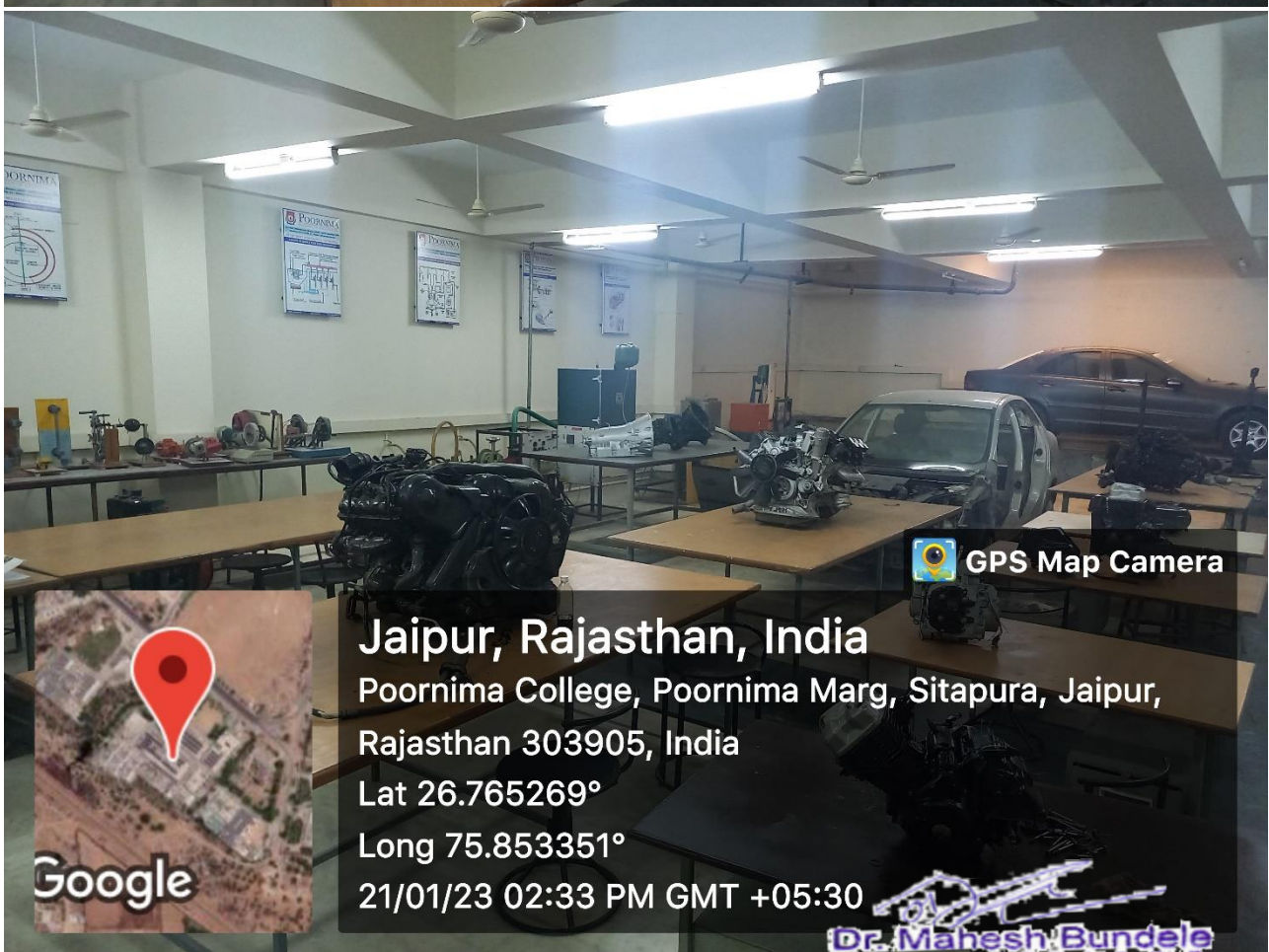
Long 75.853402°

21/01/23 02:34 PM GMT +05:30

**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR







## Memorandum of Understanding

**Between**

**Baba Automobile Pvt Ltd Jaipur**

**&**

**Shanti Education Society (Poornima Group - Jaipur)**

### **CENTER OF EXCELLENCE MACHINES AND VEHICLE**

- ☐ Start Mercedes car for Training and Vehicle Scanning.
- ☐ HERO Electric Vehicle
- ☐ Yo-Bike Electric Vehicle
- ☐ 10 types 4 wheeler Engines.
- ☐ 10 types 2 wheeler Engine.
- ☐ 3D Printer for Advanced Automation Training.
- ☐ PLC SCADA Training Kits.
- ☐ Electric vehicle Training Kits.

### **FOUR- WHEELER ENGINE SECTION**

AUDI- V-6 Twin Turbocharged Diesel Engine

MERCEDES S Class V-6 Petrol Engine.

Maruti Suzuki 4- Cylinder Swift Car advanced Engine.

Tata Safari Diesel advanced Engine.

Hyundai Verna Fuel Injector Advanced Engine.

Maruti 3 cylinder petrol Engines.

Hyundai 4 cylinder Advanced Engine.

Honda City 4 Cylinder Advanced Fuel Injection CRDI Engine.

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
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#### **FOUR- WHEELER TRANSMISSION SECTION**

**MERCEDES Automatic 7 Speed Transmission.**

**Hyundai Verna Transmission.**

**Maruti Suzuki Swift Transmission.**

#### **FOUR- WHEELER STEERING SECTION**

**Car Hydraulic advanced Steering System.**

**Car Electrical advanced Steering System.**

**Car Mechanical Rack-pinion Steering System.**

#### **FOUR- WHEELER 2 ECM**

**Maruti Suzuki ECU Units.**

**Mercedes Benz ECU Units.**

#### **TWO - WHEELER CAR SECTION**

**BAJAJ Pulsar-220 CC Engine.**

**TVS Apache 180 CC Engine.**

**LML Freedom 125 CC Engine.**

**HONDA Eterno Engine.**

**TVS Victor 150 CC Engine.**

**HONDA Activa 110 CC Engine.**

**HONDA Shine 125 CC Engine.**

**BAJAJ Discover 150 CC Engine.**

**TVS MAX 100 2 Stroke.**

**2 stroke Engine.**

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director  
Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



## **ELECTRIC VEHICLE COMPONENTS**

- Hero Electric Vehicle
- Another company Working Electric Vehicle
- Vehicle BLDC Hub Motors and 4 Wheelers Motors
- Litium Ion Battery Packs
- Lead Acid Battery Packs
- ECU
- Controllers
- Wiring
- Motor Testing Equipment
- Battery testing Equipment's
- One Electric Vehicle Fabrication material for College Project (like chassis, Bldc Motor, Batteries, wiring, Suspension, and other electric Vehicle parts)

### **Responsibilities of College:-**

- Space and Furniture for establishment of the lab
- Once proposal is accepted, College will Sign MoU with BABA AUTOMOBILE, Jaipur for training and Training activities.
- If MoU Duration 3 to 5 years.

### **Responsibilities of Baba Automobile:-**

- Experienced Automobile Trainers for Training in college.
- 100 % Practical session.
- After signing MOU Baba Automobile will install lab within 7 to 10 Days.
- Students Placements in Automobile Companies.

### **Types of Training**

1.	Renewable & Solar Power Energy
2.	Electrical & Hybrid Vehicles
3.	Automobile Engineering
4.	Manufacturing Process 3D Printers
5.	Robotics Technologies
6.	Plc - Scada - Automation Training
7.	Electrical Autocad
8.	Mechanical Autocad – Solidworks

### Financial Conditions

- Invest from Poornima College Side – **8 Lakhs**. (Pay in Advance before lab installation).
- After 3 to 5 years All Complete Automobile and Electric Vehicle COE Transferred / Owned by Poornima Group.
- At the Time of MOU Poornima Group pay 8 lakhs to Baba Automobile by NEFT/RTGF/Cheque etc. after payment received baba automobile installed COW in 7 days.

### Account Details for Paymnet

Bank Name – ICICI Bank

Account Name – Nimesh Baba Automobile Pvt Ltd

Account Number – 678705600315

IFSC – ICIC0006787

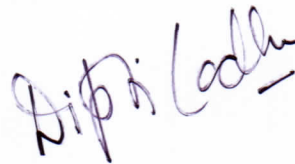
For Baba Automobile Pvt Ltd



Mr. Nimesh Baba, Director  
Baba Automobile Pvt Ltd, Pratap Nagar  
Jaipur, 302033

[Info@babaautomobile.com](mailto:Info@babaautomobile.com), 8769405920

For Poornima Group



Ms. Dipti Lodha, Director, Corporate Relations  
Poornima Group, ISI-2 RIICO Institutional Area, Sitapura  
Jaipur, 302033

[tpo@poornima.org](mailto:tpo@poornima.org), 9828510629



Dr. Mahesh Bunde  
B.E., M.E., Ph.D.

Director  
Poornima College of Engineering  
ISI-2, RIICO Institutional Area  
Sitapura, JAIPUR

## ***6. Establishment of Advance Wireless Communication Lab***

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

## **Advance Wireless Communication Lab**

**Vision:** To be the leading research institute in the Area of Advanced Wireless Communication in the state of Rajasthan and upliftment of other institutions and their stakeholders.

**Mission:-**

1. To offer state of the art education of global standards through innovative methods of teaching and learning with practical orientation aiming to prepare the students for successful careers and to provide required technological services.
2. To pursue high quality contemporary research in advance wireless communication technologies and its applications.
3. To empower students by imparting quality education in Communication Engineering for better employability and preparing them to be competent in dealing with industrial and societal challenges.
4. To expose its students to an advanced technology spectrum in order to prepare them for diverse and competitive career paths.
5. To develop innovative & simple instructional materials to drive the concepts into the minds of students.
6. To promote research culture by infusing scientific temper in the students and guiding them towards R&D activities.

### **Objectives of setting up RTU COE in Advance Wireless communication:**

- I. To impart knowledge about Advanced Wireless Communication to the students and the faculty from the institutions across Rajasthan.
- II. To make the resources available to advanced learners and researchers for developing solution to any societal, industrial and environmental applications using Wireless Communication.
- III. To create project based learning environment in and around the institute across the state of Rajasthan.

### **A. Sample Projects**

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
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### **AUTOMATIC RAILWAY BERRIE**

**Project Team:**

**1.Rahul Sharma**

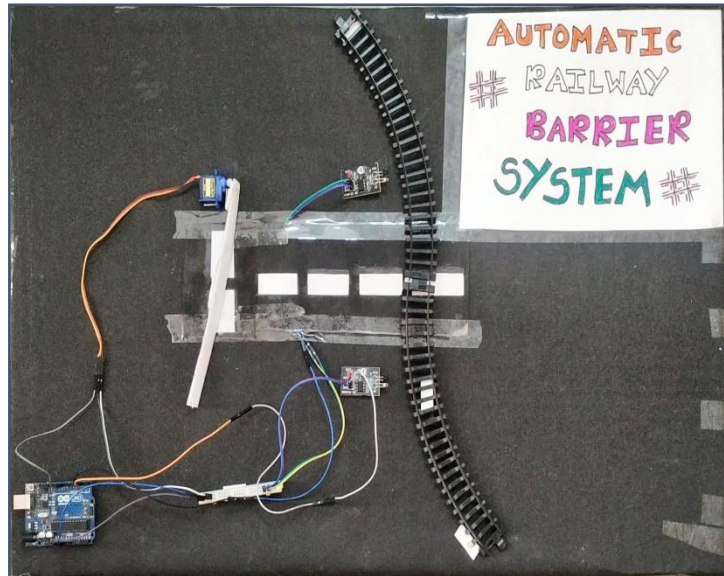
**2.SURYABHAN RAY**

**Tools used:-**

**1. Arduino Uno**

**2. IR sensor**

**3. Servo motor**



### **AUTOMATIC HAND SANITIZER**

**Project Team:**

**1.Pragya Sharma**

**2.Ms. Manisha**

**3.Rahul Sharma**

**4.Suryabhan Ray**

**Tools used**

**1.Arduino Uno**

**2.Relay**

**3.Ultrasonic sensor**

**4.DC Pump**



  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
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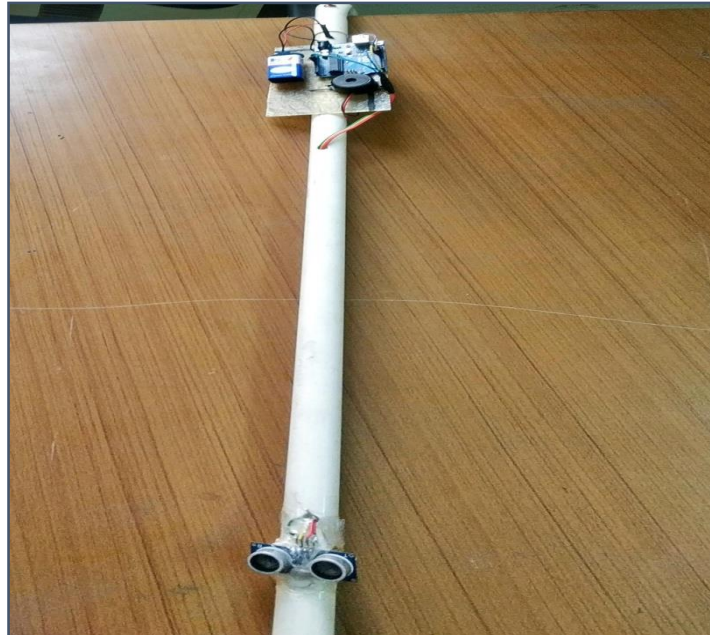
# SMART BLIND STICK FOR OBSTACLE DETECTION AND NAVIGATION SYSTEM

## Project Team:

- 1.Nitin Jain
- 2.Naman Tiwari
- 3.Prabhat Sharma

## Tool used:-

- 1.Arduino Uno
- 2.Ultrasonic sensor
- 3.Buzzer



# SMART METER

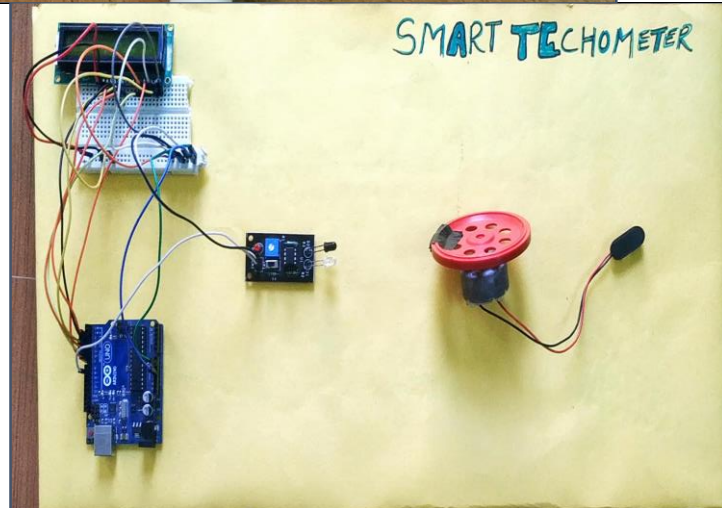
## TECHO

## Project Team:

- 1.Manish Kumar
- 2.Raman Kumar
- 3.Naman Tiwari
- 4.Nitin Jain

## Tool used

- 1.Arduino Uno
- 2.IR sensor
- 3.LCD display



  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

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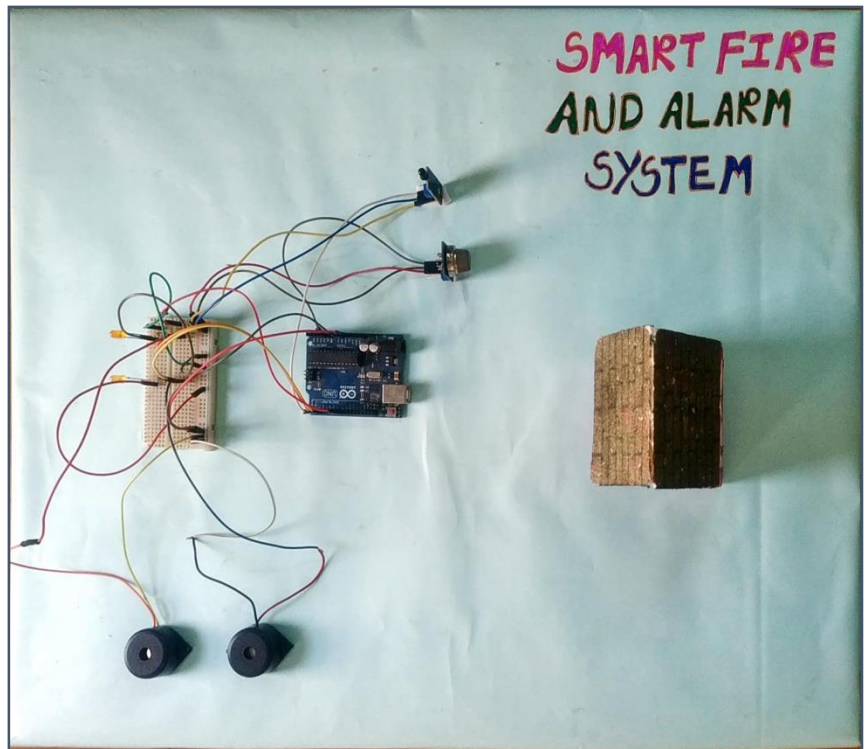
## **FIRE AND GAS SAFETY ALARM SYSTEM**

### **Project Team:**

- 1.Nemichand Chhipaa**
- 2.Aryan Catidar**
- 3.Chirag Jaiswal**

### **Tool used**

- 1.Arduino Uno**
- 2.IR sensor**
- 3.Gas sensor**
- 4.Buzzer**



## **SMART IRRIGATION SYSTEM**

- 1.Suryabhan Ray**
- 2.Rishav Anand**

### **Tool Used**

- 1.Arduino Uno**
- 2.Soil Sensor**
- 3.Dc Pump**



  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
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## Glimpses of Equipment of Centre of Excellence.



**Microwave Test Bench**



**Power Meter**



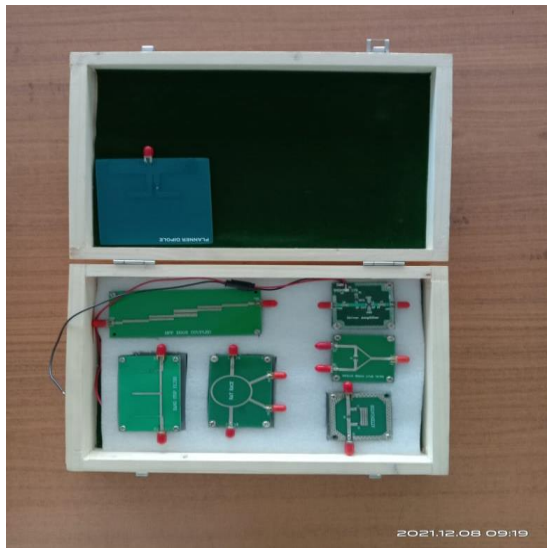
**ENA Vector Analyser**

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
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Sitapura, JAIPUR



**Radar Trainer Kit**



**Sattelite Communication Trainer Kit**

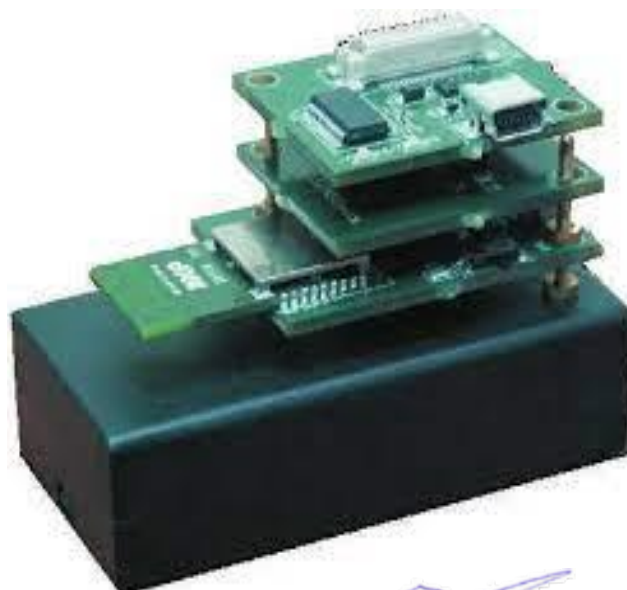
**Microwave Patch Antenna**



**Microwave Patch Antenna Kit Setup**



**Advanced Optical fiber Trainer KitSensNut Module**



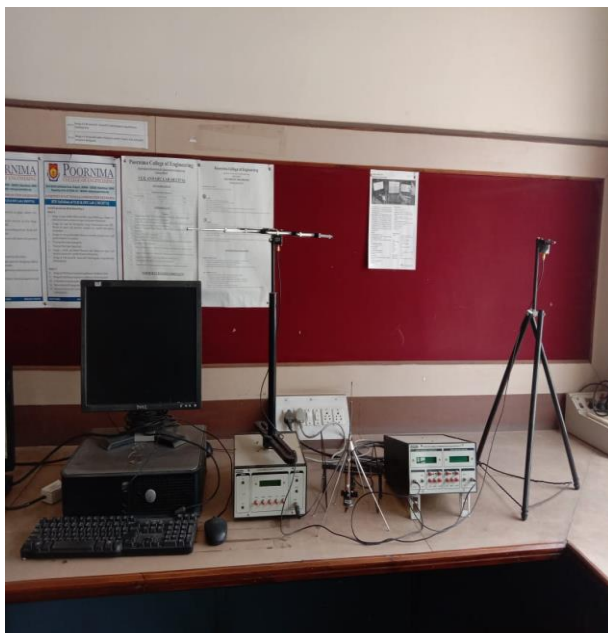
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**SensNut Module**



**Antenna Trainer Kit**

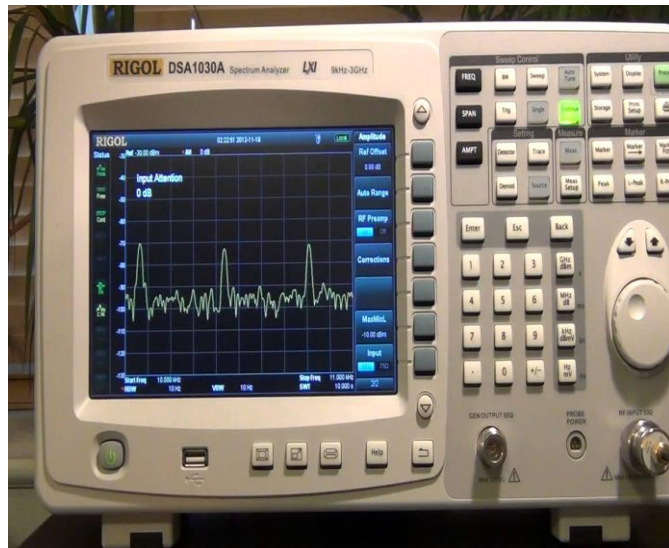


**GPS Trainer Kit**

## Digital Storage Oscilloscope



## Rigol Spectrum Analyzer



  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
131-0, FIICO Institutional Area  
Sitapura, JAIPUR

## *7. Implementation of Non Syllabus Projects (NSP)*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



## ***Implementation of Non Syllabus Projects (NSP)***

Currently, Engineering students showing an interest in making mini projects as they realize the value of practical training. But due to the software boom, until newly final year projects were not reserved seriously both due to the allowance given to them and also students had previously been employed by the time they came into the final year. And also, there are many students telling that with fewer internships, making mini projects students can gain practical knowledge.

Mini-projects are helpful that they provide employers a chance to distinguish between students with related backgrounds. They also support students to show their talent and they might not have a direct effect on employment.

Focus area mini-projects through different initiatives are attractive to engineering students, particularly in the Engineering department. But, more and more students favor working with professors straight as only a few students with lots of creativity can help from these essentially self-help kind of projects.

Before applying many core jobs, students need to answer many technical questions. If they are not confident about the answers, then they need to think back to know what do companies require from the students. It's not the knowledge that recruiters need from you but they require engineers who can be more creative and crack the technical or practical problems that arises. Resolving these industry issues is what make them a good engineer!



**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.

Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

## *8. Use of Virtual Lab in Teaching & Learning Process*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



## Implementation of Virtual Lab in Teaching Learning Process

Virtual Labs have been designed to provide remote access to labs in various disciplines of Science and Engineering. These Virtual Labs cater to students at the undergraduate level, postgraduate level as well as to research scholars. Virtual Labs enable the students to learn at their own pace and enthuse them to conduct experiments. Virtual Labs also provide a complete learning management system where the students can avail various tools for learning, including additional web resources, video lectures, animated demonstration, and self-evaluation. Virtual Labs can be used to complement physical labs.

### Virtual Lab conducted sample

The screenshot displays a virtual lab environment. On the left, a chat window titled 'Public Chat' shows a conversation between Sarvesh Kumar and Brijraj Singh Solanki. The main area shows a circuit simulation of an 8051 microcontroller. The simulation includes a Pin Diagram, Memory table, Peripherals table, and an Editor window. The video feed on the right shows a lecturer, Mayank Sharma (ECE, PCE), speaking.

**Chat Window:**

- Sarvesh Kumar: wait sir
- Brijraj Singh Solanki: ok
- Sarvesh Kumar: yes
- Brijraj Singh Solanki: any other advanced software available?
- Sarvesh Kumar: please write ans in chat box
- Dr HIMANI GOYAL SHARMA: sir this software is for block diagram
- Sarvesh Kumar: Thank you sir
- Sarvesh Kumar: Thanks sir
- Nazrul Islam: thank you sir
- Surbhi Sharma: thank u sir

**Simulation Window:**

**Pin Diagram:**

Pin	Value	Location	Value
P1.0	0x00	0x00	0x00
P1.1	0x00	0x00	0x00
P1.2	0x00	0x00	0x00
P1.3	0x00	0x00	0x00
P1.4	0x00	0x00	0x00
P1.5	0x00	0x00	0x00
P1.6	0x00	0x00	0x00
P1.7	0x00	0x00	0x00
P1.8	0x00	0x00	0x00
P1.9	0x00	0x00	0x00
P1.10	0x00	0x00	0x00
P1.11	0x00	0x00	0x00
P1.12	0x00	0x00	0x00
P1.13	0x00	0x00	0x00
P1.14	0x00	0x00	0x00
P1.15	0x00	0x00	0x00
P1.16	0x00	0x00	0x00
P1.17	0x00	0x00	0x00
P1.18	0x00	0x00	0x00
P1.19	0x00	0x00	0x00
P1.20	0x00	0x00	0x00
P1.21	0x00	0x00	0x00
P1.22	0x00	0x00	0x00
P1.23	0x00	0x00	0x00
P1.24	0x00	0x00	0x00
P1.25	0x00	0x00	0x00
P1.26	0x00	0x00	0x00
P1.27	0x00	0x00	0x00
P1.28	0x00	0x00	0x00
P1.29	0x00	0x00	0x00
P1.30	0x00	0x00	0x00
P1.31	0x00	0x00	0x00
P1.32	0x00	0x00	0x00
P1.33	0x00	0x00	0x00
P1.34	0x00	0x00	0x00
P1.35	0x00	0x00	0x00
P1.36	0x00	0x00	0x00
P1.37	0x00	0x00	0x00
P1.38	0x00	0x00	0x00
P1.39	0x00	0x00	0x00
P1.40	0x00	0x00	0x00
P1.41	0x00	0x00	0x00
P1.42	0x00	0x00	0x00
P1.43	0x00	0x00	0x00
P1.44	0x00	0x00	0x00
P1.45	0x00	0x00	0x00
P1.46	0x00	0x00	0x00
P1.47	0x00	0x00	0x00
P1.48	0x00	0x00	0x00
P1.49	0x00	0x00	0x00
P1.50	0x00	0x00	0x00
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P1.56	0x00	0x00	0x00
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P1.58	0x00	0x00	0x00
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P1.61	0x00	0x00	0x00
P1.62	0x00	0x00	0x00
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P1.66	0x00	0x00	0x00
P1.67	0x00	0x00	0x00
P1.68	0x00	0x00	0x00
P1.69	0x00	0x00	0x00
P1.70	0x00	0x00	0x00
P1.71	0x00	0x00	0x00
P1.72	0x00	0x00	0x00
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P1.98	0x00	0x00	0x00
P1.99	0x00	0x00	0x00
P1.100	0x00	0x00	0x00

**Peripherals:**

Peripheral	Value	Location	Value
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8054	0x00	0x00	0x00
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8083	0x00	0x00	0x00
8084	0x00	0x00	0x00
8085	0x00	0x00	0x00
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8089	0x00	0x00	0x00
8090	0x00	0x00	0x00
8091	0x00	0x00	0x00
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8094	0x00	0x00	0x00
8095	0x00	0x00	0x00
8096	0x00	0x00	0x00
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8098	0x00	0x00	0x00
8099	0x00	0x00	0x00
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**Editor:**

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2. MOV P0, #01H ;//To display 1
3. MOV P0, #02H ;//To display 2
4. MOV P0, #03H ;//To display 3
5. MOV P0, #04H ;//To display 4
6. MOV P0, #05H ;//To display 5
7. MOV P0, #06H ;//To display 6
8. MOV P0, #07H ;//To display 7
9. MOV P0, #08H ;//To display 8
10. MOV P0, #09H ;//To display 9
11. MOV P0, #0AH ;//To display A
12. MOV P0, #0BH ;//To display B
13. MOV P0, #0CH ;//To display C
14. MOV P0, #0DH ;//To display D
15. MOV P0, #0EH ;//To display E
16. MOV P0, #0FH ;//To display F
```



## ***9. Implementation of Industry Institute Interaction (I-3) Day***

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

**Peernima College of Engineering  
ISI-6, FIICO Institutional Area  
Sitapura, JAIPUR**



# POORNIMA

## COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

### Industry Institute Interaction (I3) Day Session 2020-21

Better interaction between technical institutions and industry is the need of the hour. With the advent of globalization and opening up of Indian economy to the outside world, competition among industries has become stiff. There is an urgent need to prepare engineering students for jobs in multinational companies, by exposing them to newer technologies and engineering methodologies. These objectives can only be achieved well by bridging the gap between industry and the academic institute.

Hence, from session 2020-21 onwards, Poornima Management intends to keep the academic engagement of students restricted to 5 days/ week & keep the **6th day exclusive for industry institute interaction**. We wish to engage all students (from 1st to 4th year) in a manner so that their all round development is ensured and they are able to complete not just locally but also globally.

A composite plan has been prepared by the Training & Placement Office (attached herewith) which includes various modules segregated year wise in an open elective manner.

Through this plan all students of Poornima Group shall be able to pursue many **Professional Certifications of in-demand technologies**, of their interest along with the options of skill enhancement, placement preparation and competitive exam preparation, by the time they graduate to their Final year.

#### HIGHLIGHTS OF I3 DAY

- Industry Oriented Programs ensuring better pursuit of career advancement
- Professional Certification by reputed Organizations, Best in the Industry
- On Campus skill enhancement and technical up-gradation
- Weekly interaction with Industry people
- Opportunity to work on industry supported live projects
- Practical exposure to in-demand technology.

#### IMPORTANT POINTS OF EXECUTION:

##### 1. About the Courses / Electives:

- a. Each Elective is a job oriented course/skill with practical applications, which are in demand in Industry.
- b. All the Electives shall be taught by Industry Experts ONLY.
- c. Majority of electives are split in Part I and II in a year. Students are required to opt for Part II of the same course in higher semester.

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



- d. It is a MANDATORY PROGRAM.
- e. Each Course would have a maximum Batch Size permissible by Industry Experts.

## 2. Mode of conduction:

- a. A particular day shall be fixed for each Campus as "I3 Day".
- b. For First Year, students will have to opt 3 Electives = 2 Non-Tech + 1 Tech
- c. For II / III / IV year, there shall be 2 electives = 1 Non Tech + 1 Tech
- d. All classes shall be in respective Campuses on the said I3 Day wherein Industry Experts shall be visiting the Campus and training the students.
- e. Batches shall be formed based upon the minimum Batch Size requirement as stipulated by Trainers.

## 3. Choosing Electives and their Allotment:

- a. TPO shall float a Google form to take the preferences of students.
- b. Each student has to give **Two Preferences** for both Technical and Non-Technical category separately for his/her current semester. (Keeping in mind that Part II would be compulsory for him to opt in next semester, if any.)
- c. Student might be interested in **Cross Department Electives**; For.eg: ECE students might be interested to take up CS/IT electives in one or all semesters. In this case, students shall be allowed to take the electives and fill in the correct details accordingly in the Google Form.
- d. **Batches** shall be formed on "**First come first serve**" basis, according to the student preferences and permissible Batch Size.
- e. A student shall **NOT be allowed to change his/her Elective** ones he has submitted his preference in Google Form.

## 4. Evaluation

There shall be an End Semester Assessment for all Professional Electives, and students shall be awarded the course completion certificate with grading by the Training Industry / Partners.

Poornima College of Engineering, Jaipur				
Department of Electronics and Communication Engineering				
Electives for Industry Institute Interaction Day (i3 @ Poornima)				
Year	Semester	Non Technical Electives- I (2 Hours / week)	Technical Electives (2 Hours / week)	Non Technical Electives - II (2 Hours / week)
<b>1</b> (Explore Talent)	I Sem	NT1101: Theatre-I NT1102: Instrument-I (Guitar, Casio, Synthesizer, Drum, Classical) NT1103 : Dance-I (Classical, Contemporary) NT1104 : Sports-I (Cricket, Volleyball, Football, Basketball, Martial Arts) NT1105 : Fine Arts-I NT1106: Photography-I NT1107: Health and Fitness- I (Yoga / Aerobics ) NT1108 : Life Skills and Human Values - I NT1109 : Organizational Behavior - I	<b>Programming Language Part I</b> TEC101 : C and C++ -I TEC102 : JAVA-I TEC103: PYTHON-I	<b>Basic Personality Development Programmes I</b> NT1201 : Spoken English - I NT1202 : Public Speaking -I NT1203 : Creative Thinking & Writing skills - I NT1204 : Presentation skills -I NT1205 :Foreign Language 1 (German, Japanese, French) - I
	II Sem	NT2101: Theatre-II NT2102: Instrument-II (Guitar, Casio, Synthesizer, Drum, Classical) NT2103 : Dance-II (Classical, contemporary) NT2104 : Sports-II (Cricket, Volleyball, Football, Basketball, Martial Arts) NT2105 : Fine Arts-II NT2106 : Photography-II NT2107 : Health and Fitness- II (Yoga / Aerobics ) - II NT2108 : Life Skills and Human Values II NT2109 : Organizational Behavior - II	<b>Programming Language Part II</b> TEC201 : C and C++ -II TEC202 : JAVA-II TEC203: PYTHON-II	<b>Basic Personality Development Programmes II :</b> NT2201 : Spoken English - II NT2202 : Public Speaking -II NT2203 : Creative Thinking & Writing skills - I NT2204 : Presentation skills -II NT2205 :Foreign Language 1 (German, Japanese, French) - II
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>2</b> (Enhance Skill)	III Sem	NT301 : Spoken English-I NT302 : Communication Skills-I (Personal, Interpersonal, Group Discussions, Interview) NT303: Writing Skills-I (Resume / Application / Email) NT304 : Presentation Skills-I NT305 : Foreign Language 2 (German, Japanese, French) -I NT306 : Toastmasters NT307: MS Advanced Excel -I NT308 : Campus Recruitment Training - I	TEC301 : CADD for Electrical TEC302 : Industrial Automation - TEC303 : MATLAB TEC304 : NS-3 TEC305 : ORCAD/PSPICE TEC306 : MultiSIM / HFSS TEC307 : IOT TEC308 : Data base Management TEC309 : Advanced JAVA	
	IV Sem	NT401 : Spoken English-II NT402 : Communication Skills-II (Personal, Interpersonal, Group Discussions, Interview) NT403: Writing Skills-II (Resume / Application / Email) NT404 : Presentation Skills-II NT405 : Foreign Language- 2 (German, Japanese, French) - I NT406 : Toastmasters NT407: MS Advanced Excel -II NT408: Campus Recruitment Training - II	TEC401 : Embedded Systems Programming TEC402 : PCB & CIRCUIT DESIGNING TEC403 : Solar Power / Renewable Energy System TEC404 : Image Processing Applications TEC405 : Artificial Intelligence -I TEC406 : Data Structure Algorithms	
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>3</b> (Prepare to complete globally)	V Sem	<b>Career Oriented Extensive Trainings Part I</b> NT501 : Campus Recruitment Trg - III NT502 : GATE-I NT503 : CAT NT504 : GMAT / GRE -I NT505 : ILETS / TOEFL-I NT506 : Entrepreneurship-I NT507 : Bank / PO Preparation-I NT508 : PSU Exam Preparations-I NT509 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TEC101 : Altera Quartus TEC502 : ECAD Tools TEC503 : Optimisim TEC504 : Xylinx TEC505 : AI using Python TEC506 : SAP - I TEC507 : P4 Programming TEC508 : Data Science I TEC509 : Artificial Intelligence II	
	VI Sem	<b>Career Oriented Extensive Trainings Part II</b> NT601 : Campus Recruitment Trg - IV NT602 : GATE-II NT603 : CAT - II NT604 : GMAT / GRE -II NT605 : ILETS / TOEFL-II NT606 : Entrepreneurship-II NT607 : Bank / PO Preparation-II NT608 : PSU Exam Preparations-II NT609 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TEC601 : Wireless Sensor Networks Design TEC602 : Computer Vision TEC603 : Object Oriented Programming TEC604 : Security using Block Chain TEC605 : Robotics TEC606 : Digital and Analog VLSI Designing TEC607 : Real Time Systems Design TEC608 : Data Science II TEC609 : Advance IoT Applications	

Year	Semester	Non Technical Electives (4 hours / week)	Technical Electives (3 Hours / week)
<b>4</b> (excel in all spheres of life)	VII Sem	<b>Career Oriented Extensive Trainings Part III</b> NT701 : Campus Recruitment Trg- III NT702 : GATE-III NT703 : CAT - III NT704 : GMAT / GRE -III NT705 : ILETS / TOEFL-III NT706 : Entrepreneurship-III NT707 : Bank / PO Preparation-III NT708 : PSU Exam Preparations-III NT709 : Digital Marketing and content writing- II	(Many Options are same as of III year. Students should choose an elective different from what he/she pursued in III year.) TEC701 : Altera Quartus TEC702 : ECAD Tools TEC703 : Optimis TEC704 : Xilinx TEC705 : AI using Python TEC706 : SAP - I TEC707 : P4 Programming TEC708 : Data Science I TEC709 : Digital and Analog VLSI Designing - I TEC710 : Hybrid and Electric Vehicles TEC711 : Nanoscience / Nanotechnology
	VIII Sem	<b>Career Oriented Extensive Trainings Part IV</b> NT801 : Entrepreneurship-IV NT802 : Bank / PO Preparation-IV NT803 : PSU Exam Preparations-IV NT804 : ILETS / TOEFL-IV NT805 : Softskills NT806 : Adv. Excel NT807 : Digital Marketing and content writing- II	TEC801 : Wireless Sensor Networks Design TEC802 : Computer Vision TEC803 : Object Oriented Programming TEC804 : Security using Block Chain TEC805 : Robotics TEC806 : Digital and Analog VLSI Designing TEC807 : Real Time Systems Design TEC808 : Data Science II TEC809 : Advance IoT Applications TEC810 : Digital and Analog VLSI Designing - II TEC811 : Real Time Distributed Systems

Poornima College of Engineering, Jaipur				
Department of Electrical Engineering				
Electives for Industry Institute Interaction Day (i3 @ Poornima)				
Year	Semester	Non Technical Electives- I (2 Hours / week)	Technical Electives ( 2 Hours / week)	Non Technical Electives - II (2 Hours / week)
<b>1</b> (Explore Talent)	I Sem	NT1101: Theatre-I NT1102: Instrument-I (Guitar, Casio, Synthesizer, Drum, Classical) NT1103 : Dance-I (Classical, Contemporary) NT1104 : Sports-I (Cricket, Volleyball, Football, Basketball, Martial Arts) NT1105 : Fine Arts-I NT1106: Photography-I NT1107: Health and Fitness- I (Yoga / Aerobics ) NT1108 : Life Skills and Human Values - I NT1109 : Organizational Behavior - I	Programming Language Part I TEE101 : C and C++ -I TEE102 : JAVA-I TEE103: PYTHON-I	<b>Basic Personality Development Programmes I :</b> NT1201 : Spoken English - I NT1202 : Public Speaking -I NT1203 : Creative Thinking & Writing skills - I NT1204 : Presentation skills -I NT1205 :Foreign Language 1 (German, Japanese, French) - I
	II Sem	NT2101: Theatre-II NT2102: Instrument-II (Guitar, Casio, Synthesizer, Drum, Classical) NT2103 : Dance-II (Classical, contemporary) NT2104 : Sports-II (Cricket, Volleyball, Football, Basketball, Martial Arts) NT2105 : Fine Arts-II NT2106 : Photography-II NT2107 : Health and Fitness- II (Yoga / Aerobics ) - II NT2108 : Life Skills and Human Values II NT2109 : Organizational Behavior - II	Programming Language Part II TEE201 : C and C++ -II TEE202 : JAVA-II TEE203: PYTHON-II	<b>Basic Personality Development Programmes II :</b> NT2201 : Spoken English - II NT2202 : Public Speaking -II NT2203 : Creative Thinking & Writing skills - I NT2204 : Presentation skills -II NT2205 :Foreign Language 1 (German, Japanese, French) - II
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>2</b> (Enhance Skill)	III Sem	NT301 : Spoken English-I NT302 : Communication Skills-I (Personal, Interpersonal, Group Discussions, Interview) NT303: Writing Skills-I (Resume / Application / Email) NT304 : Presentation Skills-I NT305 : Foreign Language 2 (German, Japanese, French) -I NT306 : Toastmasters NT307: MS Advanced Excel -I NT308 : Campus Recruitment Training - I	TEE301 : MATLAB TEE302 : Industrial Automation (PLC / SCADA) TEE303 : Solar Power / Renewable Energy TEE304 : Competency in Switch gears, power transformers and circuit breakers TEE305 : Hybrid & Electric Vehicles TEE306 : Artificial Intelligence	
	IV Sem	NT401 : Spoken English-II NT402 : Communication Skills-II (Personal, Interpersonal, Group Discussions, Interview) NT403: Writing Skills-II (Resume / Application / Email) NT404 : Presentation Skills-II NT405 : Foreign Language- 2 (German, Japanese, French) - I NT406 : Toastmasters NT407: MS Advanced Excel -II NT408: Campus Recruitment Training - II	TEE401 : Electrical AUTOCADD TEE402 : Power System Operation & Maintenance TEE403 : Smart Grid -I TEE404 : Distributed Generation TEE405 : Robotics I TEE406 : Data Science TEE407 : Programming Embedded Systems TEE408 : PSPICE	
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>3</b> (Prepare to complete globally)	V Sem	<b>Career Oriented Extensive Trainings Part I</b> NT501 : Campus Recruitment Trg - III NT502 : GATE-I NT503 : CAT NT504 : GMAT / GRE -I NT505 : ILETS / TOEFL-I NT506 : Entrepreneurship-I NT507 : Bank / PO Preparation-I NT508 : PSU Exam Preparations-I NT509 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TEE501 : Adv. Electrical AUTOCADD TEE502 : Industrial Automation - II (PLC / SCADA) TEE503 : MATLAB - II TEE504 : ETAP/Mi Power TEE505 :LAB View TEE506 : Comptency in Power Distribution TEE507 : Control System Design & Maintenance TEE508 :Cybersecurity for Automation, Control and SCADA TEE509 : Digital Power Delivery TEE510 : IPR and Patents TEE511 : Process Engineering for Drawing and Documentation TEE512 :Electrical Switch Gear & Instrumentation TEE513 :HVAC/ HVDC Designing TEE514 : Electric and Hybrid Vehicles-II	
	VI Sem	<b>Career Oriented Extensive Trainings Part II</b> NT601 : Campus Recruitment Trg - IV NT602 : GATE-II NT603 : CAT - II NT604 : GMAT / GRE -II NT605 : ILETS / TOEFL-II NT606 : Entrepreneurship-II NT607 : Bank / PO Preparation-II NT608 : PSU Exam Preparations-II NT609 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TEE601 : Homer / Multisim/ PSPICE TEE602 : Industrial Automation - III (PLC / SCADA) TEE603 : PSCAD TEE604 : PSS TEE605 : Robotics -II TEE606 : Power SYstem Planning & Load Dispatch TEE607 : Integrated System Design & Maintenance TEE608 : Renewable Energy Solutions TEE609 : Fault Diagnosys & Maintenance in Electrical Power Systems TEE610 : Practical Engineering for Energy Efficiency TEE611 : Substation Design & Installations TEE612 : Electrical wiring designing & Installation TEE613 : Smart Grid II TEE614 : Advanced Electrical Drives	



Year	Semester	Non Technical Electives (4 hours / week)	Technical Electives (3 Hours / week)
<div>4</div> <div>(excel in all spheres of life)</div>	VII Sem	<b>Career Oriented Extensive Trainings Part III</b> NT701 : Campus Recruitment Trg- III NT702 : GATE-III NT703 : CAT - III NT704 : GMAT / GRE -III NT705 : ILETS / TOEFL-III NT706 : Entrepreneurship-III NT707 : Bank / PO Preparation-III NT708 : PSU Exam Preparations-III NT709 : Digital Marketing and content writing- II	<i>(Options are same as of III year. Students should choose an elective different from what he/she pursued in III year.)</i> TEE701 : Adv. Electrical AUTOCADD TEE702 : Industrial Automation - II (PLC / SCADA) TEE703 : MATLAB - II TEE704 : ETAP/Mi Power TEE705 :LAB View TEE706 : Comptency in Power Distribution TEE707 : Control System Design & Maintenance TEE708 :Cybersecurity for Automation, Control and SCADA TEE709 : Digital Power Delivery TEE710 : IPR and Patents TEE711 : Process Engineering for Drawing and Documentation TEE712 : Electrical Switch Gear & Instrumentation TEE713 : HVAC/ HVDC Designing TEE714 : Electric and Hybrid Vehicles-II
	VIII Sem	<b>Career Oriented Extensive Trainings Part IV</b> NT801 : Entrepreneurship-IV NT802 : Bank / PO Preparation-IV NT803 : PSU Exam Preparations-IV NT804: ILETS / TOEFL-IV NT805 : Softskills NT806 : Adv. Excel NT807 : Digital Marketing and content writing- II	TEE801 : Homer / Multisim/ PSPICE TEE802 : Industrial Automation - III (PLC / SCADA) TEE803 : PSCAD TEE804 : PSS TEE805 : Robotics -II TEE806 : Power SYstem Planning & Load Dispatch TEE807 : Integrated System Design & Maintenance TEE808 : Renewable Energy Solutions TEE809 : Fault Diagnosys & Maintenance in Electrical Power Systems TEE810 : Practical Engineering for Energy Efficiency TEE811 : Substation Design & Installations TEE812 : Electrical wiring designing & Installation TEE813 : Smart Grid II TEE814 : Advanced Electrical Drives

Poornima College of Engineering, Jaipur				
Department of Mechanical Engineering				
Electives for Industry Institute Interaction Day (i3 @ Poornima)				
Year	Semester	Non Technical Electives- I (2 Hours / week)	Technical Electives (2 Hours / week)	Non Technical Electives - II (2 Hours / week)
<b>1</b> (Explore Talent)	I Sem	NT1101: Theatre-I NT1102: Instrument-I (Guitar, Casio, Synthesizer, Drum, Classical) NT1103 : Dance-I (Classical, Contemporary) NT1104 : Sports-I (Cricket, Volleyball, Football, Basketball, Martial Arts) NT1105 : Fine Arts-I NT1106: Photography-I NT1107: Health and Fitness- I (Yoga / Aerobics ) NT1108 : Life Skills and Human Values - I NT1109 : Organizational Behavior - I	Programming Language Part I TME101 : C++ -I TME102 : JAVA-I TME103: PYTHON-I TME104 : AUTOCAD - I	<b>Basic Personality Development Programmes I :</b> NT1201 : Spoken English - I NT1202 : Public Speaking -I NT1203 : Creative Thinking & Writing skills - I NT1204 : Presentation skills -I NT1205 :Foreign Language 1 (German, Japanese, French) - I
	II Sem	NT2101: Theatre-II NT2102: Instrument-II (Guitar, Casio, Synthesizer, Drum, Classical) NT2103 : Dance-II (Classical, contemporary) NT2104 : Sports-II(Cricket, Volleyball, Football, Basketball, Martial Arts) NT2105 : Fine Arts-II NT2106 : Photography-II NT2107 : Health and Fitness- II (Yoga / Aerobics ) - II NT2108 : Life Skills and Human Values II NT2109 : Organizational Behavior - II	Programming Language Part II TME201 : C++ -II TME202 : JAVA-II TME203: PYTHON-II TME204 : AUTOCAD - II	<b>Basic Personality Development Programmes II :</b> NT2201 : Spoken English - II NT2202 : Public Speaking -II NT2203 : Creative Thinking & Writing skills - I NT2204 : Presentation skills -II NT2205 :Foreign Language 1 (German, Japanese, French) - II
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>2</b> (Enhance Skill)	III Sem	NT301 : Spoken English-I NT302 : Communication Skills-I (Personal, Interpersonal, Group Discussions, Interview) NT303: Writing Skills-I (Resume / Application / Email) NT304 : Presentation Skills-I NT305 : Foreign Language 2 (German, Japanese, French) -I NT306 : Toastmasters NT307: MS Advanced Excel -I NT308 : Campus Recruitment Training - I	TME301 : Unigraphics NX TME302 : Solid Works TME303 : Pro E/ Creo TME304 : CATIA TME305 : Autodesk Inventor TME306 : Alibre TME307 : Revit (BIM) TME308 : Sketchup (BIM) TME309: Artificial Intelligence I TME310 : Automobile - I TME311 : Aeromodelling - I	
	IV Sem	NT401 : Spoken English-II NT402 : Communication Skills-II (Personal, Interpersonal, Group Discussions, Interview) NT403: Writing Skills-II (Resume / Application / Email) NT404 : Presentation Skills-II NT405 : Foreign Language- 2 (German, Japanese, French) - I NT406 : Toastmasters NT407: MS Advanced Excel -II NT408 : Campus Recruitment Training - II	TME401 : ANSYS TME402 : MATLAB TME403 : COMSOL TME404 : Hypermesh TME405 : BIM TME406: Robotics & Automation I TME407: Data Science I TME408 : Automobile - II TME409 : Aeromodelling - II TME410: Artificial Intelligence II	

Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)
<b>3</b> (Prepare to complete globally)	V Sem	<b>Career Oriented Extensive Trainings Part I</b> NT501 : Campus Recruitment Trg - III NT502 : GATE-I NT503 : CAT NT504 : GMAT / GRE -I NT505 : ILETS / TOEFL-I NT506 : Entrepreneurs-I NT507 : Bank / PO Preparation-I NT508 : PSU Exam Preparations-I NT509 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TME501 : Piping Design - I TME502 : HVAC Design - I TME503 : CFD - I TME504 : 3D Printing- I TME505 : Industrial Fire and Safety- I TME506 : Robotics- I TME507 : CNC Programming- I TME508 : PDMS (Plant Design Management System) - I TME509 : Manufacturing - I
	VI Sem	<b>Career Oriented Extensive Trainings Part II</b> NT601 : Campus Recruitment Trg - IV NT602 : GATE-II NT603 : CAT - II NT604 : GMAT / GRE -II NT605 : ILETS / TOEFL-II NT606 : Entrepreneurs-II NT607 : Bank / PO Preparation-II NT608 : PSU Exam Preparations-II NT609 : Adv Foreign Language (German, Japanese, French)- <i>extension to one studied in I / II year</i>	TME601 : Piping Design - II TME602 : HVAC Design - II TME603 : CFD - II TME604 : 3D Printing- II TME605 : Industrial Fire and Safety- II TME606 : Robotics- II TME607 : CNC Programming- II TME608 : PDMS (Plant Design Management System) - II TME609 : Manufacturing - II TME610 : Aeromodelling - II
Year	Semester	Non Technical Electives (4 hours / week)	Technical Electives (3 Hours / week)
<b>4</b> (excel in all spheres of life)	VII Sem	<b>Career Oriented Extensive Trainings Part III</b> NT701 : Campus Recruitment Trg- III NT702 : GATE-III NT703 : CAT - III NT704 : GMAT / GRE -III NT705 : ILETS / TOEFL-III NT706 : Entrepreneurs-III NT707 : Bank / PO Preparation-III NT708 : PSU Exam Preparations-III NT709 : Digital Marketing and content writing- II	<i>(Many options are same as of III year. Students should choose an elective different from what he/she pursued in III year. )</i> TME701 : HVAC Design - I TME702 : CFD - I TME703 : 3D Printing- I TME704 : Robotics- I TME705 : CNC Programming- I TME706 : PDMS (Plant Design Management System) - I TME707 : Automobile - I TME708 : Manufacturing - I TME709 : Piping Design - I TME710 : Green Building & its Rating System TME711 : Renewable energy and Systems TME712 : Energy Audit and Management
	VIII Sem	<b>Career Oriented Extensive Trainings Part IV</b> NT801 : Entrepreneurs-IV NT802 : Bank / PO Preparation-IV NT803 : PSU Exam Preparations-IV NT804 : ILETS / TOEFL-IV NT805 : Softskills NT806 : Adv. Excel NT807 : Digital Marketing and content writing- II	TME801 : HVAC Design - II TME802 : CFD - II TME803 : 3D Printing- II TME804 : Robotics- II TME805 : CNC Programming- II TME806 : PDMS (Plant Design Management System) - II TME807 : Automobile - II TME808 : Manufacturing - II TME809 : Piping Design- II TME810 : Green Building & its Rating System - II TME811 : Solar Energy and its application - II TME812 : Energy Audit and Management - II

Poornima College of Engineering, Jaipur				
Department of Civil Engineering				
Electives for Industry Institute Interaction Day (i3 @ Poornima)				
Year	Semester	Non Technical Electives- I (2 Hours / week)	Technical Electives (2 Hours / week)	Non Technical Electives- II (2 Hours / week)
<b>1</b> (Explore Talent)	I Sem	NT1101: Theatre-I NT1102: Instrument-I (Guitar, Casio, Synthesizer, Drum, Classical) NT1103 : Dance-I (Classical, Contemporary) NT1104 : Sports-I (Cricket, Volleyball, Football, Basketball, Martial Arts) NT1105 : Fine Arts-I NT1106: Photography-I NT1107: Health and Fitness- I (Yoga / Aerobics ) NT1108 : Life Skills and Human Values - I NT1109 : Organizational Behavior - I	TCE101: AUTOCAD -I TCE102 : Sketchup -I TCE103 : C++	<b>Basic Personality Development Programmes I :</b> NT1201 : Spoken English - I NT1202 : Public Speaking -I NT1203 : Creative Thinking & Writing skills - I NT1204 : Presentation skills -I NT1205 :Foreign Language 1 (German, Japanese, French) - I
	II Sem	NT2101: Theatre-II NT2102: Instrument-II (Guitar, Casio, Synthesizer, Drum, Classical) NT2103 : Dance-II (Classical, contemporary) NT2104 : Sports-II (Cricket, Volleyball, Football, Basketball, Martial Arts) NT2105 : Fine Arts-II NT2106 : Photography-II NT2107 : Health and Fitness- II (Yoga / Aerobics ) - II NT2108 : Life Skills and Human Values II NT2109 : Organizational Behavior - II	TCE201: AUTOCAD -II TCE202 : Sketchup -II TCE203 : JAVA	<b>Basic Personality Development Programmes II :</b> NT2201 : Spoken English - II NT2202 : Public Speaking -II NT2203 : Creative Thinking & Writing skills - I NT2204 : Presentation skills -II NT2205 :Foreign Language 1 (German, Japanese, French) - II
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)	
<b>2</b> (Enhance Skill)	III Sem	NT301 : Spoken English-I NT302 : Communication Skills-I (Personal, Interpersonal, Group Discussions, Interview) NT303: Writing Skills-I (Resume / Application / Email) NT304 : Presentation Skills-I NT305 : Foreign Language 2 (German, Japanese, French) - I NT306 : Toastmasters NT307: MS Advanced Excel -I NT308 : Campus Recruitment Training - I	<b>3D Modelling Softwares</b> TCE301 : Autodesk 3ds Max TCE302 : Autodesk Civil 3D TCE303 : REVIT Structure TCE304 : REVIT Architecture TCE305 : Water CAD TCE306 : Python	
	IV Sem	NT401 : Spoken English-II NT402 : Communication Skills-II (Personal, Interpersonal, Group Discussions, Interview) NT403: Writing Skills-II (Resume / Application / Email) NT404 : Presentation Skills-II NT405 : Foreign Language- 2 (German, Japanese, French) - I NT406 : Toastmasters NT407: MS Advanced Excel -II NT408: Campus Recruitment Training - II	<b>Structural Analysis and Design</b> TCE401 : STAADPRO TCE402 : BIM Navisworks TCE403 : BIM - Autodesk REVIT TCE404: Statistical Methods TCE405 : Total Station and GIS TCE406 : MATLAB TCE407 : Artificial Intelligence & Tools TCE408 : COMSOL	



Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 Hours / week)
<b>3</b> (Prepare to complete globally)	V Sem	<b>Career Oriented Extensive Trainings Part I</b> NT501 : Campus Recruitment Trg - III NT502 : GATE-I NT503 : CAT NT504 : GMAT / GRE -I NT505 : ILETS / TOEFL-I NT506 : Entrepreneurship-I NT507 : Bank / PO Preparation-I NT508 : PSU Exam Preparations-I NT509 : Adv Foreign Language (German, Japanese, French)- extension to one studied in I / II year)	TCE501 : Project Mgmt Software : Primavera -I / MS Project TCE502 : Structural and Foundation Analysis -I TCE503 : Building Information Modeling - I TCE504: Transportation Engineering TCE505: Quantity Surveying TCE506: SAP2000 TCE507: Statistical Methods TCE508: Total Station and GIS
	VI Sem	<b>Career Oriented Extensive Trainings Part II</b> NT601 : Campus Recruitment Trg - IV NT602 : GATE-II NT603 : CAT - II NT604 : GMAT / GRE -II NT605 : ILETS / TOEFL-II NT606 : Entrepreneurship-II NT607 : Bank / PO Preparation-II NT608 : PSU Exam Preparations-II NT609 : Adv Foreign Language (German, Japanese, French)- extension to one studied in I / II year)	TCE601 : Project Mgmt Software : Primavera - II TCE602 : Structural and Foundation Analysis-II TCE603 : Building Information Modeling -II TCE604 : Bridge Design, Fabrication & Testing TCE605 : Seismic Design of Buildings TCE606 : Industrial Infrastructure TCE607: Pipe line planning and designing like "Water gems" TCE608: Data Science & Statistics TCE609 : Applications of GIS
Year	Semester	Non Technical Electives (4 hours / week)	Technical Electives (3 Hours / week)
<b>4</b> (excel in all spheres of life)	VII Sem	<b>Career Oriented Extensive Trainings Part III</b> NT701 : Campus Recruitment Trg- III NT702 : GATE-III NT703 : CAT - III NT704 : GMAT / GRE -III NT705 : ILETS / TOEFL-III NT706 : Entrepreneurship-III NT707 : Bank / PO Preparation-III NT708 : PSU Exam Preparations-III NT709 : Digital Marketing and content writing- II	<i>(Options are same as of III year. Students should choose an elective different from what he/she pursued in III year. )</i> TCE701 : Project Mgmt Software : Primavera -I / MS Project TCE702 : Structural and Foundation Analysis -I TCE703 : Building Information Modeling - I TCE704: Transportation Engineering TCE705: Quantity Surveying TCE706: SAP2000 TCE707: Statistical Methods TCE708: Total Station and GIS
	VIII Sem	<b>Career Oriented Extensive Trainings Part IV</b> NT801 : Entrepreneurship-IV NT802 : Bank / PO Preparation-IV NT803 : PSU Exam Preparations-IV NT804: ILETS / TOEFL-IV NT805 : Softskills NT806 : Adv. Excel NT807 : Digital Marketing and content writing- II	TCE801 : Project Mgmt Software : Primavera - II TCE802 : Structural and Foundation Analysis-II TCE803 : Building Information Modeling -II TCE804 : Bridge Design, Fabrication & Testing TCE805 : Seismic Design of Buildings TCE806 : Industrial Infrastructure TCE807: Pipe line planning and designing like "Water gems" TCE808: Data Science & Statistics TCE809 : Applications of GIS

Poornima College of Engineering, Jaipur				
Dept. of Computer Engg. & Dept. of Information Technology Engineering				
Electives for Industry Institute Interaction Day (i3 @ Poornima)				
Year	Semester	Non Technical Electives- I (2 Hours / week)	Technical Electives ( 2 Hours / week)	Non Technical Electives- II (2 Hours / week)
<b>1</b> (Explore Talent)	I Sem	NT1101: Theatre-I NT1102: Instrument-I (Guitar, Casio, Synthesizer, Drum, Classical) NT1103 : Dance-I (Classical, Contemporary) NT1104 : Sports-I (Cricket, Volleyball, Football, Basketball, Martial Arts) NT1105 : Fine Arts-I NT1106: Photography-I NT1107: Health and Fitness- I (Yoga / Aerobics ) NT1108 : Life Skills and Human Values - I NT1109 : Organizational Behavior - I	Programming Language Part I TCS101 : C and C++ -I TCS102 : JAVA-I TCS103: PYTHON-I	Basic Personality Development Programmes I : NT1201 : Spoken English - I NT1202 : Public Speaking -I NT1203 : Creative Thinking & Writing skills - I NT1204 : Presentation skills -I NT1205 :Foreign Language 1 (German, Japanese, French) - I
	II Sem	NT2101: Theatre-II NT2102: Instrument-II (Guitar, Casio, Synthesizer, Drum, Classical) NT2103 : Dance-II (Classical, contemporary) NT2104 : Sports-II (Cricket, Volleyball, Football, Basketball, Martial Arts) NT2105 : Fine Arts-II NT2106 : Photography-II NT2107 : Health and Fitness- II (Yoga / Aerobics ) - II NT2108 : Life Skills and Human Values II NT2109 : Organizational Behavior - II	Programming Language Part II TCS201 : C and C++ -II TCS202 : JAVA-II TCS203: PYTHON-II	Basic Personality Development Programmes II : NT2201 : Spoken English - II NT2202 : Public Speaking -II NT2203 : Creative Thinking & Writing skills - I NT2204 : Presentation skills -II NT2205 :Foreign Language 1 (German, Japanese, French) - II
Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives (3 hours / week)	
<b>2</b> (Enhance Skill)	III Sem	NT301 : Spoken English-I NT302 : Communication Skills-I (Personal, Interpersonal, Group Discussions, Interview) NT303: Writing Skills-I (Resume / Application / Email) NT304 : Presentation Skills-I NT305 : Foreign Language 2 (German, Japanese, French) -I NT306 : Toastmasters NT307: MS Advanced Excel -I NT308 : Campus Recruitment Training - I	TCS301 : JavaScript and TypeScript TCS302 : SWIFT TCS303 : Asp .Net ,.NET TCS304 : WordPress TCS305 : PHP TCS306 : Angular JS TCS307 : Node JS TCS308 : React JS	
	IV Sem	NT401 : Spoken English-II NT402 : Communication Skills-II (Personal, Interpersonal, Group Discussions, Interview) NT403: Writing Skills-II (Resume / Application / Email) NT404 : Presentation Skills-II NT405 : Foreign Language- 2 (German, Japanese, French) - I NT406 : Toastmasters NT407: MS Advanced Excel -II NT408: Campus Recruitment Training - II	TCS401 : Artificial Intelligence and Automation -I TCS402 : Digital Marketing (SEO SMO) TCS403 : Web Designing - (Website / Graphical Designing / Animation ) TCS404 : Basic Hardware and Networking TCS405 : Mobile App Development (IOS / React Native/ Android / Flutter) TCS406 : Devops-I TCS407 : Cloud Computing (AWS / MS Azure) TCS408 : Basic Full stack Developer TCS409 : Data Science - I TCS410 : Basic Business Analytics TCS411 : UI/UX web development - I TCS412 : Internet of Things (IOT)	

Year	Semester	Non Technical Electives (3 hours / week)	Technical Electives
<b>3</b>  (Prepare to complete globally)	V Sem	<b>Career Oriented Extensive Trainings Part I</b> NT501 : Campus Recruitment Trg - III NT502 : GATE-I NT503 : CAT NT504 : GMAT / GRE -I NT505 : ILETS / TOEFL-I NT506 : Entrepreneurship-I NT507 : Bank / PO Preparation-I NT508 : PSU Exam Preparations-I NT509 : Adv Foreign Language (German, Japanese, French)- extension to one studied in I / II year)	TCS501 : Big Data Hadoop -I TCS502 : Data Science ( R Programming / Python / Data Analytics)-II TCS503 : Blockchain -I TCS504 : Salesforce -I TCS505 : AR/VR and 5 G-I TCS506 : JavaScript Master And JavaScript Master Plus Course -I TCS507 : HTML5 And CSS3 Master -I TCS508 : Bootstrap Master -I TCS509 : Software Quality Testing(SQT) Automation TCS510 : Quality Assurance and Testing-I TCS511 : Adv. Full Stack Developer -I TCS512 : UI/UX web development - II TCS513 : Devops - II TCS514 : Cyber Security and Ethical Hacking
	VI Sem	<b>Career Oriented Extensive Trainings Part II</b> NT601 : Campus Recruitment Trg - IV NT602 : GATE-II NT603 : CAT - II NT604 : GMAT / GRE -II NT605 : ILETS / TOEFL-II NT606 : Entrepreneurship-II NT607 : Bank / PO Preparation-II NT608 : PSU Exam Preparations-II NT609 : Adv Foreign Language (German, Japanese, French)- extension to one studied in I / II year)	TCS601 : Big Data Hadoop -II TCS602 : Data Science II ( R Programming / Python / Data Analytics)-III TCS603 : Blockchain -II TCS604 : Salesforce -II TCS605 : AR/VR and 5 G -II TCS606 : JavaScript Master And JavaScript Master Plus Course -II TCS607 : HTML5 And CSS3 Master -II TCS608 : Bootstrap Master -II TCS609 : Artificial Intelligence and Automation -II TCS610 : Quality Assurance and Testing -II TCS611 : Adv. Full Stack Developer -II TCS612 : NS-3 TCS613 : Edge Computing TCS614 : SDN & P4
Year	Semester	Non Technical Electives (4 hours / week)	Technical Electives (3 Hours / week)
<b>4</b>  (excel in all spheres of life)	VII Sem	<b>Career Oriented Extensive Trainings Part III</b> NT701 : Campus Recruitment Trg- III NT702 : GATE-III NT703 : CAT - III NT704 : GMAT / GRE -III NT705 : ILETS / TOEFL-III NT706 : Entrepreneurship-III NT707 : Bank / PO Preparation-III NT708 : PSU Exam Preparations-III NT709 : Digital Marketing and content writing- II	<i>(Options are same as of III year. Students should choose an elective different from what he/she pursued in III year.)</i>  TCS701 : Big Data Hadoop -I TCS702 : Adv. Data Science-I TCS703 : Blockchain -I TCS704 : Salesforce -I TCS705 : JavaScript Master TCS706 : HTML5, CSS3 Bootstrap Master -I TCS707 : Software Quality Testing(SQT) Automation TCS708 : Adv. Full Stack Developer -I TCS709 : Cyber Security and Ethical Hacking
	VIII Sem	<b>Career Oriented Extensive Trainings Part IV</b> NT801 : Entrepreneurship-IV NT802 : Bank / PO Preparation-IV NT803 : PSU Exam Preparations-IV NT804 : ILETS / TOEFL-IV NT805 : Softskills NT806 : Adv. Excel NT807 : Digital Marketing and content writing- II	TCS801 : Big Data Hadoop -II TCS802 : Adv. Data Science-I TCS803 : Blockchain -II TCS804 : Salesforce -II TCS805 : AR/VR and 5 G TCS806 : JavaScript Master Plus Course TCS807 : HTML5, CSS3 and Bootstrap Master -II TCS808 : Quality Assurance and Testing TCS809 : Adv. Full Stack Developer -II TCS810 : NS-3 TCS811 : Edge Computing TCS812 : SDN & P4

## ***10. UDAAN AEROMODELLING CLUB***



  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



**UDAAN** is an Aeromodelling club which is running by students of Poornima college of Engineering. Students lead the students. It was setup by teachers but now it is self-sustained and driven by students. Aeromodelling is the hobby of building and flying unmanned aircraft models. In club Aeromodelling classes are conducting for the students by the students. Chuck gliders, RC Planes, Drones and many more models are being created here. Every year students participate in various kinds of events held by IIT's, RTU, LNMIIT and many more colleges. We got achievements and rewards in many of the competitions. The leaders, mentors or core team go for the competition with great preparations and come back with the achievements, experience, and dedication. UDAAN aeromodelling club is the topmost club in all over Rajasthan. There's a lot of knowledge to gain and enjoyment with the learning. We believe to fly high.

Udaan Aeromodelling Club is a self-sustained club or it is a group of students including all four years. Every year there is an increment in the members of udaan family. This club is basically run for the first year students including both hostellers and day-scholars. In 2019, Poornima group of colleges introduces with the concept of students' council, so that, each club have to assign two members of their club who represents them into students' council and with two members as MENTORS of the Club. In this club, basically, mentors teach about how to manufacture a RC plane, hovercraft, quad copter (Drone), 3D - Plane, etc. They also have took some technical theory classes regarding aeromodelling & aeronautics & organized some events based on it, for the students of Poornima group of colleges.

### **Objective**

The Central Aim of the club is to enhance the practical-skills of the students and give them a chance to showcase their talent regarding Aeromodelling. A fresh design objective, every year introduces new challenges, bringing in innovation and scope for simple yet smart creations. It provides real-world aircraft design experience with the goal of balancing high performance, good flight handling capabilities and affordable manufacturing.

### **AIM**

To achieve our goal of excellence in the field of technology, we are trying our best to provide base for those zealous and hardworking students so that they can grow, nurture and explore the opportunities in the sky.

Udaan Aeromodelling Club is a one stop destination where you can learn and polish your aeromodelling skills. Udaan is among the best aeromodelling clubs in Jaipur. The club has achieved heights in the last few years. The mission of the club is to design, create and fly! It is surely a right destination if you want to make your career in aeromodelling.

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR

## Regular Classes

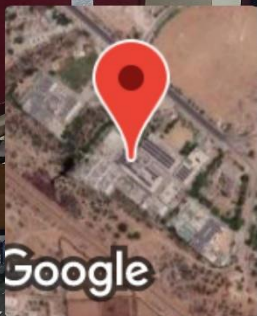
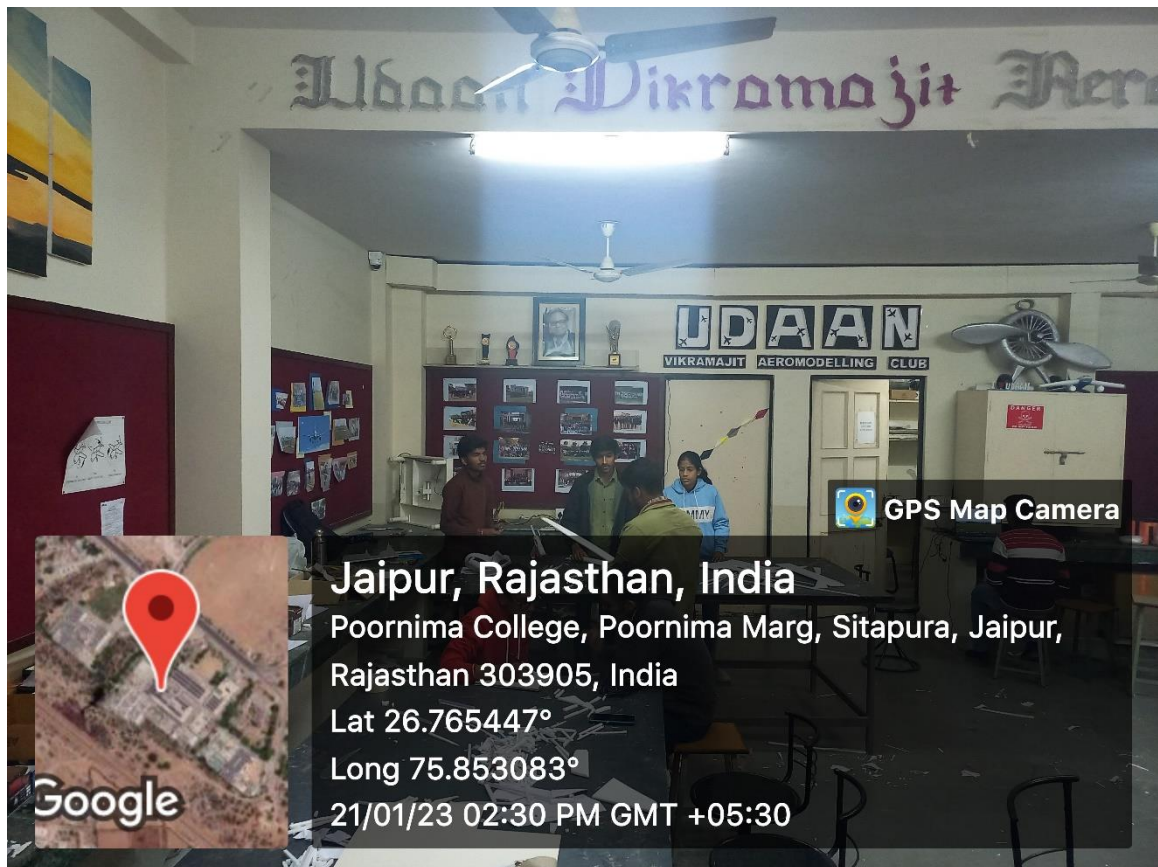
Regular classes has been taken by the Captain, mentors or other senior members of Udaan Aeromodelling Club.



  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR





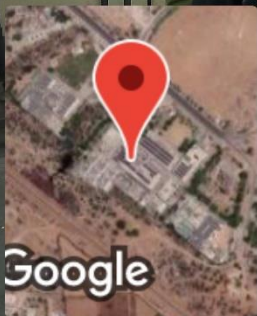
**Jaipur, Rajasthan, India**

Poornima College, Poornima Marg, Sitapura, Jaipur,  
Rajasthan 303905, India

Lat 26.765447°

Long 75.853083°

21/01/23 02:30 PM GMT +05:30



**Jaipur, Rajasthan, India**

Poornima College, Poornima Marg, Sitapura, Jaipur,  
Rajasthan 303905, India

Lat 26.765412°

Long 75.853119°

21/01/23 02:30 PM GMT +05:30

*Dr. Mahesh Bundele*  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR





GPS Map Camera

**Jaipur, Rajasthan, India**

Poornima College, Poornima Marg, Sitapura,

Jaipur, Rajasthan 303905, India

Lat 26.765443°

Long 75.853084°

21/01/23 02:29 PM GMT +05:30

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR





**SPICES - Sanction Letter**

F.No. 10-167/AICTE/IDC/SPICES/2020-21

Dated: 05.03.2021

To

The Drawing and Disbursing Officer  
All India Council for Technical Education  
Nelson Mandela Marg, Vasant Kunj,  
New Delhi-110070.

**Subject:** Release of a sum of Rs. **1,00,000/-** (Rupees One lakh only) as Grant-in-Aid under **AICTE-SPICES** for the year 2021-22 payable during the current financial year 2020-21-reg.

Madam/Sir,

With reference to the proposal submitted by the institute, this is to convey the sanction of the Council for payment of Rs. **1,00,000/-** (Rupees One lakh only) to support the student club/chapter/society (**hereinafter referred to as 'Club'**) under the "**Scheme for Promoting Interests, Creativity and Ethics among Students (SPICES)**", as per details given below:

1.	Name and address of the Beneficiary Institute:	<b>POORNIMA COLLEGE OF ENGINEERING, ISI-6, RIICO INSTITUTIONAL AREA SITAPURA, GONER ROAD, JAIPUR, 302022, Rajasthan</b>
2.	Permanent ID of Institute:	1-4441611
3.	Name of student club:	UDAAN AEROMODELLING CLUB
4.	Name of Coordinator:	<b>Dr. Payal Bansal</b>
5.	Name of Co-coordinator	Sanjay Kumawat
6.	Grant-in-aid Sanctioned:	Rs. <b>1,00,000/-</b> (Rupees One Lakh only)
7.	Amount to be released during the year 2020-21	Rs. <b>1,00,000/-</b> (Rupees One Lakh only)
8.	Sanctioned grant-in-aid is debitable to:	<b>Major Head 602.22 (a) General (Non-Plan Head)</b>

- The amount of the grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education, New Delhi on the Grant-in-aid bill and shall be disbursed to and credited to the account of Registrar/ Director/ Principal of the institute through RTGS.
- This grant-in-aid is being released in conformity with the terms & conditions as well as norms of the Scheme as already communicated and also being communicated in this letter.

**The instructions/ guidelines to be followed by college/institution**

**I. Release of funds**

- a. The Principal/ Director of the institute and the Coordinator of the student club is hereby requested to verify the correctness of the undermentioned bank account/ RTGS details submitted by them alongwith the proposal, against which the grant is being released:

**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR



Institute PAN No.	Bank Name	Bank Branch Name	Bank Branch Address	Account Holder Name	Account Type	Account Number	IFSC Code
AACT16 02A	BANK OF INDIA	RAMCHA NDRAPU RA	POORNIMA UNIVERSITY CAMPUS, PLOT NO. IS-2027 TO IS-2031	POORNIMA COLLEGE OF ENGINEERING	Current Account	665420110 000010	BKID00066 54

In case of any omission the same should be reported to AICTE within 7 (Seven) days.

- The full amount of the grant sanctioned is being released as advance to the College/ Institute.
- This sanction is issued in exercise of the powers delegated to the Council and other terms and condition laid down in the guidelines of the Scheme.

## II. Limit of Funding

- The grant from AICTE will be Rs. **1,00,000/-** (Rupees One lakh only) and the institute is required to make a contribution of **Rs. (400001 and above)** to the club (as committed by the institute in the proposal), non-compliance of which shall invite penal action.

## III. Utilization of funds

- Funds once released/sanctioned for supporting the particular student club cannot be utilized for any other programme/ student club.
- Students on roll in the institute shall be the member of the club.
- The grant can be utilized for supporting Interests/Hobbies, Creativity/ Imagination/ Innovation and Ethics/ Value through a range of student activities and meeting the cost of registration and travel (up to 40% of the total grant) of students of the beneficiary club, participating in outstation activities.
- Ex-students and ex- faculty members and other officials of the institute shall not be the member of club.
- The clubs must be encouraged to reach out alumni and industries for fund-raising for their events.
- Coordinator will maintain an electronic record of activities, participants etc..

## IV. Maintenance of accounts

- The institute shall strictly follow the provisions laid down in the Scheme document and this sanction letter. All correspondence related to the project must contain the number of this letter alongwith year of sanction of the project failing which correspondence will not be entertained.
- The institute shall maintain proper accounts of the expenditure out of the grant and the Council or its nominee shall have the right to check/verify the account to satisfy that the fund has been utilized for the purpose for it was sanctioned.
- Funds covered by this grant shall be kept separately and would not be mixed up with other funds, so as to know the amount of interest accrued on the grant.

## V. Refund of grant to AICTE (by way of a demand draft in favour of Member Secretary, AICTE, New Delhi)

- The grant shall be refunded to AICTE if the Letter of Approval (LOA) or Extension of Approval is not issued by AICTE to the institute for the academic year 2021-22.
- Interest accrued on the grant released, shall be refunded to AICTE.
- No payment is permissible against the activities **already conducted** by club
- As AICTE needs adequate time for depositing the Demand Draft in the bank, the same be immediately dispatched to avoid any lapse of the validity period.

## VI. Documents to be uploaded on AICTE Dashboard/ Portal

### a. On receipt of grant:

- The Acceptance Letter within 7 days from the date of receipt of the Sanction Letter duly signed and seal affixed by Coordinator and Head of the Institutions.

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Poornima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR



**b. After completion of every quarter** (from the date of receipt of grant)

- i. Upload the list of activities /events /participation date-wise brief description, achievement and 4-5 pictures.

**c. After completion of the project (after one year):**

Institute has to fill up and update information on AICTE Dashboard/ Portal and upload following documents:

- i. Photographs showing various activities, events organized by club.
- ii. Feed-back of members of the club.
- iii. Identify 3 other clubs which the institution proposes to develop on the lines of club benefited under SPICES.

**VII. Submission of documents by institute for project closure (after one year)**

The following documents must be submitted to AICTE within a period of one month, after completion of one year, to stay eligible for receiving further grants from AICTE:

- a. Utilization Certificate and Statement of Accounts in prescribed format duly audited by the Chartered Accountant in the case of a private institution and by the Finance Officer/Account Officer in respect of government/government- aided institution.
- b. Supporting bills/documents on account of expenses incurred for the purpose duly attested by the Head of the Institute.
- c. Proof of the amount made available by the institution approved by the Council/ University/ State Government and other sources.
- d. Soft copy of final report submitted on AICTE Dashboard/ Portal as mentioned above (in section VI).

**VIII. General instructions**

- a. The assets acquired wholly or substantially of the grants from AICTE shall not be disposed or encumbered or utilized for the purposes other than those for which it was given without proper sanction of the Council and should, at any time the Institution ceased to function, such assets shall revert to the AICTE.
- b. The beneficiary institute will make best efforts to promote the scheme by mentioning the sponsorship/ support from AICTE, carrying the Logo of AICTE in club activities and other means.
- c. The beneficiary institution shall observe all financial norms and guidelines as prescribed by the AICTE/ Government of India from time to time. GOI GFR rules (@<https://doe.gov.in/order-circular/general-financial-rules2017-0>) should be followed during utilization of grant.
- d. This Sanction Letter may be treated as Offer Letter for all purposes.

Yours sincerely

(Dr. Neeraj Saxena)  
Adviser (IDC)

Copy forwarded for information and necessary action to:

1. **Dr. Payal Bansal,**  
POORNIMA COLLEGE OF ENGINEERING, ISI-6, RIICO  
INSTITUTIONAL AREA SITAPURA, GONER ROAD,  
JAIPUR, 302022, Rajasthan.
2. **The Registrar / Director / Principal,**  
POORNIMA COLLEGE OF ENGINEERING, ISI-6, RIICO  
INSTITUTIONAL AREA SITAPURA, GONER ROAD,  
JAIPUR, 302022, Rajasthan.
3. **Guard File.**

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR

## *11. Implementation of Add-on Courses in Teaching & Learning*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



## Add-on Courses List 2021-22

NAME OF COURSE	COURSE CODE
<b>DEPARTMENT LEVEL COURSES</b>	
<b>DEPARTMENT OF CIVIL ENGINEERING</b>	
<i>Advance Building Construction and Drawing</i>	<i>AOC-DEP-CIV-ABCD</i>
<i>Analysis &amp; Design of Tall Building</i>	<i>AOC-DEP-CIV-ADTB</i>
<i>Building Information Modelling</i>	<i>AOC-DEP-CIV-BIM</i>
<i>Residential House Planning as per NBC</i>	<i>AOC-DEP-CIV-RHPN</i>
<i>Sketch Up 3D Modeling</i>	<i>AOC-DEP-CIV-TDM</i>
<b>DEPARTMENT OF COMPUTER ENGINEERING</b>	
<i>Microsoft Azure Academia Program: Azure AI Fundamentals</i>	<i>AOC-DEP-CSE-AZAI</i>
<i>Microsoft Azure Academia Program: Python Programming</i>	<i>AOC-DEP-CSE-AZPY</i>
<i>Microsoft Azure Academia Program: Microsoft Azure Data Fundamentals</i>	<i>AOC-DEP-CSE-AZDF</i>
<i>Microsoft Azure Academia Program: Big Data</i>	<i>AOC-DEP-CSE-AZBD</i>
<i>Microsoft Azure Academia Program: POWER BI "DATA ANALYTICS"</i>	<i>AOC-DEP-CSE-AZBI</i>
<i>Microsoft Azure Academia Program: Cloud Infrastructure and Security</i>	<i>AOC-DEP-CSE-AZCI</i>
<i>Programming in Hadoop</i>	<i>AOC-DEP-CSE-AZHD</i>
<i>Data Science with Python</i>	<i>AOC-DEP-CSE-DSPY</i>
<i>Selenium Testing</i>	<i>AOC-DEP-CSE-SETS</i>
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
<i>AUTONOM</i>	<i>AOC-DEP-EE-AUTO</i>
<i>Enabling Technology for Electric Transportation</i>	<i>AOC-DEP-EE-ET</i>
<i>Introduction to MATLAB for Engineering Problems</i>	<i>AOC-DEP-EE-MATL</i>
<i>Understanding Basics of Micro controller and Embedded Systems</i>	<i>AOC-DEP-EE-MCES</i>
<i>Introduction to Virtual Labs</i>	<i>AOC-DEP-EE-VL</i>
<b>DEPARTMENT OF ELECTRONICS &amp; COMMUNICATION ENGINEERING</b>	
<i>Design of Basic Robots</i>	<i>AOC-DEP-ECE-DBR</i>
<i>OptiSystem Fundamentals and Design Techniques</i>	<i>AOC-DEP-ECE-OPTI</i>
<i>Use of AI in Electronics</i>	<i>AOC-DEP-ECE-AI</i>
<i>Python Programming: The basics</i>	<i>AOC-DEP-ECE-PP</i>
<b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>	
<i>Web Design and Development</i>	<i>AOC-DEP-IT-WEB</i>
<i>Advanced Python Programming</i>	<i>AOC-DEP-IT-PYP</i>
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>	
<i>CATIA</i>	<i>AOC-DEP-ME-CTA</i>
<i>Solid Works</i>	<i>AOC-DEP-ME-SW</i>
<i>3D Printing</i>	<i>AOC-DEP-ME-TDP</i>
<i>Basics of Automobile Engineering</i>	<i>AOC-DEP-ME-BAE</i>
<i>Advances of Automobile Engineering</i>	<i>AOC-DEP-ME-AAE</i>
<b>DEPARTMENT OF FIRST YEAR</b>	
<i>Project Based Learnings</i>	<i>AOC-DEP-FY-PBL</i>
<i>Program on Logical Reasoning and Technical Skill Development</i>	<i>AOC-DEP-FY-LRTS</i>
<i>Skill Development Program in Project Oriented Training</i>	<i>AOC-DEP-FY-SDPP</i>
<i>Skill Development Program in Advanced C</i>	<i>AOC-DEP-FY-ACP</i>
<i>Skill Development Program in Machine Learning-Deep learning</i>	<i>AOC-DEP-FY-SDPML</i>
<i>Skill Development Program in Web Development using JAVASCRIPT and REACTJS</i>	<i>AOC-DEP-FY-SDPWD</i>

  
**Dr. Mahesh Bunde**  
 B.E., M.E., Ph.D.  
 Director

Poornima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR

## Add-on Courses List 2020-21

NAME OF COURSE	COURSE CODE
<b>DEPARTMENT LEVEL COURSES</b>	
<b>DEPARTMENT OF CIVIL ENGINEERING</b>	
Advance Building Construction and Drawing	AOC-DEP-CIV-ABCD
Analysis & Design of Tall Building	AOC-DEP-CIV-ADTB
Building Information Modelling	AOC-DEP-CIV-BIM
Residential House Planning as per NBC	AOC-DEP-CIV-RHPN
Sketch Up 3D Modeling	AOC-DEP-CIV-TDM
<b>DEPARTMENT OF COMPUTER ENGINEERING</b>	
Microsoft Azure Academia Program: Azure AI Fundamentals	AOC-DEP-CSE-AZAI
Microsoft Azure Academia Program: Python Programming	AOC-DEP-CSE-AZPY
Microsoft Azure Academia Program: Microsoft Azure Data Fundamentals	AOC-DEP-CSE-AZDF
Microsoft Azure Academia Program: Big Data	AOC-DEP-CSE-AZBD
Microsoft Azure Academia Program: POWER BI "DATA ANALYTICS"	AOC-DEP-CSE-AZBI
Microsoft Azure Academia Program: Cloud Infrastructure and Security	AOC-DEP-CSE-AZCI
Programming in Hadoop	AOC-DEP-CSE-AZHD
Data Science with Python	AOC-DEP-CSE-DSPY
Selenium Testing	AOC-DEP-CSE-SETS
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
Understanding of Electrical Machines	AOC-DEP-EE-EM
Introduction to Internet of Things (IOT) in Electrical Engineering	AOC-DEP-EE-IOT
Applications of Arduino devices in Electrical Engineering	AOC-DEP-EE-ARD
Introduction to Raspberry PI and its applications	AOC-DEP-EE-RSPI
Introduction to PV Syst and its applications in Power Engineering	AOC-DEP-EE-PVS
<b>DEPARTMENT OF ELECTRONICS &amp; COMMUNICATION ENGINEERING</b>	
Art of Technical Writing & Publishing Research Papers	AOC-DEP-ECE-TWP
PSpice: A modeling Tool	AOC-DEP-ECE-PSP
VLSI Circuit Design using Xilinx & Mentor Graphics Tools	AOC-DEP-ECE-VLSI
LABVIEW & its Hardware Application	AOC-DEP-ECE-LABV
Simulation using PROTEUS Software	AOC-DEP-ECE-PCBD
Application of MATLAB in Engineering	AOC-DEP-ECE-MATL
<b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>	
Introduction to Python Programming	AOC-DEP-IT-PYP
Web Design and Development	AOC-DEP-IT-WEB
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>	
Solid Works	AOC-DEP-ME-SW
Basics of Automobile Engineering	AOC-DEP-ME-BAE
Advances of Automobile Engineering	AOC-DEP-ME-AAE
<b>DEPARTMENT OF FIRST YEAR</b>	
Project Based Learnings	AOC-DEP-FY-PBL
Program on Logical Reasoning and Technical Skill Development	AOC-DEP-FY-LRTS
Skill Development Program in Project Oriented Training	AOC-DEP-FY-SDPP
Skill Development Program in Advanced C	AOC-DEP-FY-ACP
Skill Development Program in Machine Learning-Deep learning	AOC-DEP-FY-SDPML
Skill Development Program in Web Development using JAVASCRIPT and REACTJS	AOC-DEP-FY-SDPWD

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Poonima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR

## Add-on Courses List 2019-20

NAME OF COURSE	COURSE CODE
<b>CAMPUS LEVEL COURSES</b>	
<b>IBM SOFTWARE LAB FOR EMERGING TECHNOLOGIES</b>	
Application Development And Deployment For Cloud Using IBM Bluemix	AOC-CP-IBM-BLU
Learning Business Intelligence Using IBM Cognos	AOC-CP-IBM-COG
IoT Application Development And Deployment Using IBM Bluemix	AOC-CP-IBM-IOT
Spoken Tutorial- CPP	AOC-CP-SPT-CPP
Spoken Tutorial- PYTHON 3.4.3	AOC-CP-SPT-PYTH
<b>DEPARTMENT LEVEL COURSES</b>	
<b>DEPARTMENT OF CIVIL ENGINEERING</b>	
Revit Architecture	AOC-DEP-CIV-REV
Automatic Computer Aided Designing / Drafting	AOC-DEP-CIV-CAD
STADD PRO	AOC-DEP-CIV-SPRO
<b>DEPARTMENT OF COMPUTER ENGINEERING</b>	
Web Development	AOC-DEP-CSE-WebD
Dot Net Framework	AOC-DEP-CSE-DotNet
Programming in Java Script	AOC-DEP-CSE-PJS
Blockchain Technology	AOC-DEP-CSE-BCT
Cisco Certified Network Administrator	AOC-DEP-CSE-CCNA
Web Development with Django	AOC-DEP-CSE-WDDJ
Programming in Hadoop	AOC-DEP-CSE-HDP
Data Science with Python	AOC-DEP-CSE-DSP
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
Applications of Arduino devices in Electrical Engineering	AOC-DEP-EE-AAD
Introduction to Internet of Things (IOT) in Electrical Engineering	AOC-DEP-EE-IOT
Introduction to MATLAB and its application in Electrical Engineering	AOC-DEP-EE-MATL
Overview of Photovoltaic Systems	AOC-DEP-EE-PHVS
Fundamentals of Autocad and its applications	AOC-DEP-EE-CAD
<b>DEPARTMENT OF ELECTRONICS &amp; COMMUNICATION ENGINEERING</b>	
Foundation to Robotics	AOC-DEP-EC-ROBO
Hardware Integration with LabVIEW	AOC-DEP-EC-LABV
The Tool for Zotero Integration	AOC-DEP-EC- LATZ
Keil Embedded Development Tools SIMULATE, AND LAYOUT	AOC-DEP-EC- KEIL
Introduction to Programming with MATLAB	AOC-DEP-EC- MATL
PCB Designing	AOC-DEP-EC- PCBD
<b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>	
Web Development using Angular JS	AOC-DEP-IT-WEBD
Automation Testing using Selenium	AOC-DEP-IT-ATS
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>	
CATIA	AOC-DEP-ME-CAT
<b>DEPARTMENT OF FIRST YEAR</b>	
Project Based Learnings	AOC-DEP-FY-PBL
Program on Logical Reasoning and Technical Skill Development	AOC-DEP-FY-LRTS
Skill Development Program in Project Oriented Training	AOC-DEP-FY-SDPP
Skill Development Program in Advanced C	AOC-DEP-FY-ACP
Skill Development Program in Machine Learning-Deep learning	AOC-DEP-FY-SDPML
Skill Development Program in Web Development using JAVASCRIPT and REACTJS	AOC-DEP-FY-SDPWD

  
**Dr. Mahesh Bunde**  
 B.E., M.E., Ph.D.  
 Director

Poornima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR

## Add-on Courses List 2018-19

NAME OF COURSE	COURSE CODE
<b>CAMPUS LEVEL COURSES</b>	
<b>IBM SOFTWARE LAB FOR EMERGING TECHNOLOGIES</b>	
Application Development And Deployment For Cloud Using IBM Bluemix	AOC-CP-IBM-BLU
Learning Business Intelligence Using IBM Cognos	AOC-CP-IBM-COG
IoT Application Development And Deployment Using IBM Bluemix	AOC-CP-IBM-IOT
<b>SPOKEN TUTORIAL COURSES</b>	
Spoken Tutorial- CPP	AOC-CP-SPT-CPP
Spoken Tutorial- PYTHON	AOC-CP-SPT-PYTH
Spoken Tutorial- JAVA	AOC-CP-SPT-JAVA
Spoken Tutorial- QCAD	AOC-CP-SPT-QCAD
<b>DEPARTMENT LEVEL COURSES</b>	
<b>DEPARTMENT OF CIVIL ENGINEERING</b>	
Basics of Remote Sensing, Geographical Information System & Global Navigation Satellite System	AOC-DEP-CIV-RSGIS
Practical Knowledge On Sewage Treatment Plant	AOC-DEP-CIV-PKSTP
<b>DEPARTMENT OF COMPUTER ENGINEERING</b>	
Web Development	AOC-DEP-CSE-WebD
Dot Net Framework	AOC-DEP-CSE-DotNet
Programming in Java Script	AOC-DEP-CSE-PJS
Blockchain Technology	AOC-DEP-CSE-BCT
Cisco Certified Network Administrator	AOC-DEP-CSE-CCNA
Programming in Hadoop	AOC-DEP-CSE-HDP
Data Science with Python	AOC-DEP-CSE-DSP
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
Fundamental of Electrical Engineering and Energy studies	AOC-DEP-EE-FEEES
Introduction to ETAP for Electrical Engineering	AOC-DEP-EE-ETAP
Introduction to Electric Vehicle and Future Prospects	AOC-DEP-EE-EVFP
Fundamentals of Autocad and its Applications	AOC-DEP-EE-FAA
Introduction to State Space Modelling of Complex Engineering Problems in MATLAB	AOC-DEP-EE-SSM
<b>DEPARTMENT OF ELECTRONICS &amp; COMMUNICATION ENGINEERING</b>	
VLSI Design using Cadence Tools	AOC-DEP-ECE-VLSI
Introduction to Programming with MATLAB	AOC-DEP-ECE-MATL
Technical Writing with Latex and Zotero	AOC-DEP-ECE-LATEX
Circuit Maker Simulation	AOC-DEP-EC-CMS
<b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>	
Web Design & Development	AOC-DEP-IT-WEB
Introduction to Python Programming	AOC-DEP-IT-PYP
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>	
Solid Works	AOC-DEP-ME-SW
CATIA	AOC-DEP-ME-CAT
ANSYS	AOC-DEP-ME-SYS
<b>DEPARTMENT OF FIRST YEAR</b>	
Project Based Learnings	AOC-DEP-FY-PBL
Program on Logical Reasoning and Technical Skill Development	AOC-DEP-FY-LRTS
Skill Development Program in Project Oriented Training	AOC-DEP-FY-SDPP
Skill Development Program in Advanced C	AOC-DEP-FY-ACP
Skill Development Program in Machine Learning-Deep learning	AOC-DEP-FY-SDPML
Skill Development Program in Web Development using JAVASCRIPT and REACTJS	AOC-DEP-FY-SDPWD

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Poonima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR



## Add-on Courses List 2017-18

NAME OF COURSE	COURSE CODE
<b>CAMPUS LEVEL COURSES</b>	
<b>IBM SOFTWARE LAB FOR EMERGING TECHNOLOGIES</b>	
<i>Application Development And Deployment For Cloud Using IBM Bluemix</i>	<i>AOC-CP-IBM-BLU</i>
<i>Learning Business Intelligence Using IBM Cognos</i>	<i>AOC-CP-IBM-COG</i>
<i>IoT Application Development And Deployment Using IBM Bluemix</i>	<i>AOC-CP-IBM-IOT</i>
<b>SPOKEN TUTORIAL COURSES</b>	
<i>Spoken Tutorial-PHP &amp; MYSQL</i>	<i>AOC-CP-SPT-PHP</i>
<i>Spoken Tutorial- CPP</i>	<i>AOC-CP-SPT-CPP</i>
<i>Spoken Tutorials – QCAD</i>	<i>AOC-DEP-ME-QCAD</i>
<b>QEEE COURSES</b>	
<i>QEEE Course - Memory and IO - Advanced Computer Architecture</i>	<i>AOC-DEP-EE-QEEE</i>
<i>QEEE Course – Storage Management- Operating Systems</i>	<i>AOC-DEP-IT-QEEE1</i>
<i>QEEE Course- Object Oriented Concepts-Classes and Data Abstraction-Operator Overloading-Inheritance</i>	<i>AOC-DEP-IT-QEEE2</i>
<i>QEEE Course Linear Data Structures and Applications - Data Structures and Algorithms</i>	<i>AOC-DEP-IT-QEEE3</i>
<b>DEPARTMENT LEVEL COURSES</b>	
<b>DEPARTMENT OF CIVIL ENGINEERING</b>	
<i>Revit Architecture</i>	<i>AOC-DEP-CIV-REV</i>
<i>AutoCAD</i>	<i>AOC-DEP-CIV-CAD</i>
<i>STADD PRO</i>	<i>AOC-DEP-CIV-SPRO</i>
<b>DEPARTMENT OF COMPUTER ENGINEERING</b>	
<i>Advanced Java</i>	<i>AOC-DEP-CSE-ADJ</i>
<i>Python Programming</i>	<i>AOC-DEP-CSE-PPG</i>
<i>Mobile Application Development</i>	<i>AOC-DEP-CSE-MAD</i>
<i>Cisco Certified Network Administrator</i>	<i>AOC-DEP-CSE-CNA</i>
<i>Programming In Hadoop</i>	<i>AOC-DEP-CSE-HDP</i>
<i>Data Science With Python</i>	<i>AOC-DEP-CSE-DSP</i>
<b>DEPARTMENT OF ELECTRICAL ENGINEERING</b>	
<i>Understanding Of Basic Electrical System</i>	<i>AOC-DEP-EE-BES</i>
<i>Smart Grid: Integration, Energy Storage And System Operations</i>	<i>AOC-DEP-EE-SGS</i>
<i>Overview Of Photovoltaic Systems</i>	<i>AOC-DEP-EE-PVS</i>
<i>Introduction To PV System And Its Applications In Power Engineering</i>	<i>AOC-DEP-EE-PVA</i>
<b>DEPARTMENT OF ELECTRONICS &amp; COMMUNICATION ENGINEERING</b>	
<i>Etching &amp; Designing</i>	<i>AOC-DEP-ECE-ETC</i>
<i>NI Multisim Basics: Schematic Capture And Simulation</i>	<i>AOC-DEP-ECE-SIM</i>
<i>Introduction of Technical Writing Skills</i>	<i>AOC-DEP-ECE-TWS</i>
<i>Basics of Programming Languages</i>	<i>AOC-DEP-ECE-BPL</i>
<b>DEPARTMENT OF INFORMATION TECHNOLOGY</b>	
<i>Web Development</i>	<i>AOC-DEP-IT-WEB</i>
<i>Automation Testing Using Selenium</i>	<i>AOC-DEP-IT-SEL</i>
<b>DEPARTMENT OF MECHANICAL ENGINEERING</b>	
<i>ANSYS</i>	<i>AOC-DEP-ME-SYS</i>
<b>DEPARTMENT OF FIRST YEAR</b>	
<i>Project Based Learning</i>	<i>AOC-DEP-FY-PBL</i>
<i>Logical Reasoning and Technical Skill Development</i>	<i>AOC-DEP-FY-LRTS</i>
<i>Advanced C Programming</i>	<i>AOC-DEP-FY-ACP</i>

  
**Dr. Mahesh Bundele**  
 B.E., M.E., Ph.D.  
 Director

Poonima College of Engineering  
 ISI-0, FIICO Institutional Area  
 Sitapura, JAIPUR

## *12. Installation of Rooftop Photovoltaic System (2021)*

  
**Dr. Mahesh Bunde**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



# POORNIMA

## COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

### A REPORT ON INSTALLATION OF ROOFTOP PHOTOVOLTAIC SYSTEM

- ♦ **TITLE:** “Installation of Rooftop Photovoltaic System in PCE, Jaipur”
- ♦ **SPONSORS & SUPPORTERS:** Not applicable.
- ♦ **INSTALLATION AGENCY:** VG Energies
- ♦ **ABOUT THE ROOFTOP PV SYSTEM:**

Rooftop solar PV systems are distributed electricity generation options, which help to meet a building’s energy needs, or provide electricity within an existing distribution network. The size of the installation can vary dramatically, and is dependent on the size of the building, the amount of electricity required, the funding available for the project, and the grid operator’s willingness to accept excess capacity. Core system components include PV modules, their accompanying mounting structure and an inverter.

However, other components can also be incorporated into the system, depending on its size and complexity. These include:

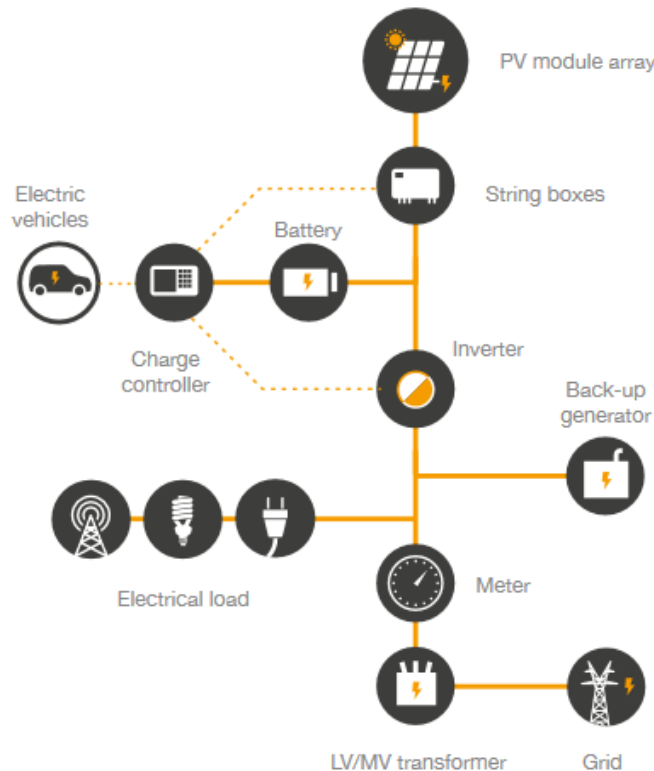
- String boxes;
- Batteries;
- Generators;
- Transformers; and
- Meters

The layout and configuration of systems can differ, depending on the load type and the energy supply requirements. An indicative layout is shown. The number and size of PV installations has increased exponentially since 2000, with Europe, China, the Americas and Asia-Pacific driving this growth.

The increase in the uptake of solar PV installations is influenced by:

- Decreasing PV technology costs;
- Economies of scale achieved;
- The learning curve associated with utility scale installations;
- Increasing grid supplied electricity prices;
- The availability of preferential feed-in-tariffs or other financial incentives for renewable energy technologies (including tax credits);

- Carbon emission reduction targets;
- The availability of alternative financing options;
- Air pollution concerns; and
- Energy security concerns



PV systems provide a clean and increasingly affordable option for building owners and occupants to produce their own electricity. Globally, investments in small scale PV installations increased consistently between 2006 and 2012. This trend is expected to continue going forward, and it is estimated that solar PV installations could total 403GW by 2020. The cost of installing a PV system is driven by the cost of the following:

- PV system component costs;
- Project development costs; and
- Installation and commissioning costs

System components make up the majority of the overall capital cost, with modules and inverters accounting for more than 60% of total costs. Balance of system (BOS) costs include the mounting system, electrical equipment (such as transformers and cables), grid connection, installation and planning costs. Overall installation costs for PV technologies have decreased significantly in recent years; the cost of generating electricity from crystalline PV modules, for example, has dropped by approximately 53% since 2009. This does not include any backup supply options, such as batteries or generators. This trend is expected to continue going forward and overall system costs are forecasted to decrease by between 40% and 75% by 2050, compared to 2014 costs.

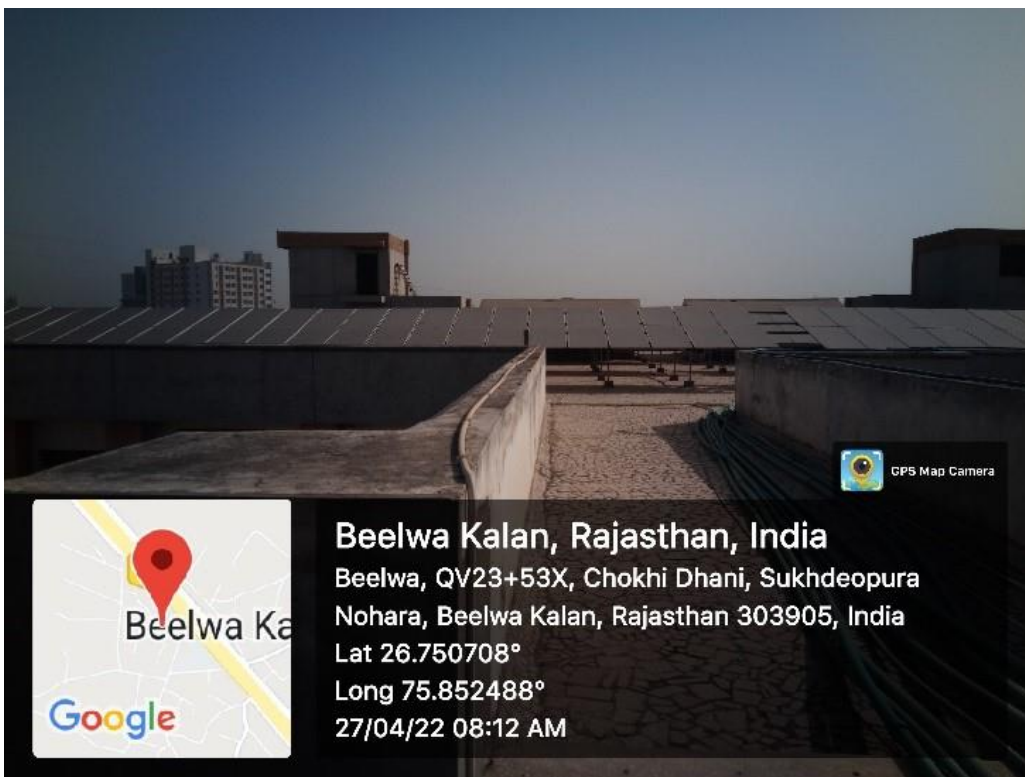


◆ PROJECT PHOTOS:










## Wheeling to the grid





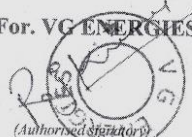
◆ BUDGET & ACTUALS



# VG ENERGIES

DATE : 31-03-21

GST NO.- 08AAKFV8950A1ZY

RETAIL INVOICE											
M/s. :	SHANTI EDUCATION SOCIETY		INV NO.	:	67						
NAME	POORNIMA COLLEGE OF ENGINEERING		CH.NO.	:							
ADDRESS:	ISI-6 RIICO INSTITUTIONAL AREA GONER ROAD SITAPURA, JAIPUR-302022		TRANSPORT	:	AUTO						
M:			EXECUTIVE	:	ANURAG						
GSTIN			CUSTOMER CARE	:	0141-4063409						
EWAY NO.	7111-8406-9942										
Sr.No	PRODUCT	HSN CODE	Rate..	Qty.	Amount..						
	<b>SOLAR POWER PLANT</b>										
	184KW										
1	RENEWSYS SOLAR MODULE -WS-330	85414011	5512.18	544	2998625.92						
2	POLYCARB ON GRID INVERTER	85044090	333928.00	2	667856.00						
3	BOM WITHOUT MODULE & INVERTER	84	5500.00	180	987250.00						
4	WIFI DEVICE	85044090	2500.44	2	5000.88						
5	INTALLATION		3147.28	184	579099.52						
<p>Ar. FOR PAYMENT</p> <p>OF Rs. 5703999.38</p> <p>31/3/21</p> <p>Authorized Signatory</p>											
Rs. {in words} :	FIFTY SEVEN LAKH FOUR THOUSAND ONLY		Total .....		5237832.32						
			CGST	2.50%	91662.06						
			SGST	2.50%	91662.06						
			CGST	9.00%	141421.47						
			SGST	9.00%	141421.47						
			<b>TOTAL</b>		<b>5703999.38</b>						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>FIXED ASSETS</th> <th>EXPENSES</th> </tr> </thead> <tbody> <tr> <td>S.No. 1205</td> <td>S.No.</td> </tr> <tr> <td colspan="2">Amt. 5703999.38</td> </tr> </tbody> </table>			FIXED ASSETS	EXPENSES	S.No. 1205	S.No.	Amt. 5703999.38				
FIXED ASSETS	EXPENSES										
S.No. 1205	S.No.										
Amt. 5703999.38											
<b>OUR BANK : KOTAK MAHINDRA BANK, JAIPUR</b> A/C NO : 0413772907 IFSC/RTGS/NEFT/ CODE : KKBK0003537			ROUND OF 0.00 <b>TOTAL 5704000.00</b>								
<b>Terms &amp; condition :</b> 1. Goods once Sold will not Be taken back 2. Subject to Jaipur Jurisdiction . E.&O.E .											
			For. VG ENERGIES  (Authorized Signatory)								
Haramam Kunj, Opp. Ganga Tower & Metro Pillor No. 167, Khasa Kotli Circle Station Road, Jaipur, (Raj.), 302001, Tel : 0141-2202670 \ 4063409 info@vgenergies.com, vgenergies@gmail.com, www.vgenergies.com											

## *13. Village Adoption for development*

  
**Dr. Mahesh Bundele**  
B.E., M.E., Ph.D.  
Director

Peernima College of Engineering  
ISI-0, FIICO Institutional Area  
Sitapura, JAIPUR



मो. 9460111113, 935222254

श्रीयुक्त निदेशक महोदय  
पूर्णिमा कॉलेज ऑफ इंजीनियरिंग  
आइ. एस. आई - 06, रीको इन्स्टीट्यूशन एरिया  
सीतापुरा, जयपुर (राज) पिन 302022

दिनांक 25-10-2018...

संदर्भ - विकास अधिकारी, कार्यालय पंचायत समिति सांगानेर, जयपुर द्वारा जारी किया गया पत्र क्रमांक 560 दिनांक 03/10/2018.

संविधान के अंतर्गत शांतिपूर्ण ढंग से - 2 फरवरी 2019 को चयनित दिनांक  
अनुसार संविधान द्वारा निर्धारित 10% का अनुपात नहीं किया जा रहा है।  
यह स्वतंत्र निरस्त होने जा रहा है।  
Hitesh Jadhav

Amit, your self  
सरपंच

सरपंच  
ग्राम पंचायत विधानी  
ना. नं. १०८ (नगापुर)

निवासी: पूर्व सरपंच कन्हैया लाल जी यादव, ग्राम- चकसाला रामपुरा

**Director**  
**Poornima College of Engineering**  
**ISI-0, RILCO Institutional Area**  
**Silapura, JAIPUR**