



# POORNIMA

## COLLEGE OF ENGINEERING

An autonomous institution approved by RTU, AICTE & UGC • NAAC A+ Accredited



## *Research Facilities in Institute*

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 Bunde**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR



# POORNIMA

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## COLLEGE OF ENGINEERING

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

### *Research Facilities in Department of Electrical Engineering*

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 Bunde**  
B.E., M.E., Ph.D.  
Director  
Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR

## Research Facilities

S. No	Name of Equipment	Laboratory	Date of purchase se & cost	Bill no. & Date
<b>Research Facility in Electric Drives Lab Engineering</b>				
1	3-Phase Induction motors, S.no. A-090270-271, (Rotomatic A-090271, 71)	Electric Drives Lab	9.9.2014	1415/3272/9.9.2014
2	AC Synchronous motor, S.no. 983	Electric Drives Lab	9.9.2014	1415/3272/9.9.2014
<b>Research Facility in Electrical Machine Lab Engineering</b>				
3	Control panel OC/SC test of 3 phase transformers	Electrical Machine Lab	20.02.20 06	20.02.2006
4	Control panel Scott connection of 3 phase transformer	Electrical Machine Lab	20.02.20 06	20.02.2006
<b>Research Facility in Protection Lab Engineering</b>				
5	Burden effect of CT (setup)	Power System Protection Lab	18.08.20 04	EL8831/18.08.2004
6	40 litre oil filtering test set	Power System Protection Lab	10.09.20 12	EL/3764/1213/10.09.2012
7	High voltage circuit breaker testing unit	Power System Protection Lab	10.09.20 12	EL/3764/1213/10.09.2012
8	High voltage transmission line simulation panel	Power System Protection Lab	10.09.20 12	EL/3764/1213/10.09.2012
9	HT & LT bushing, lightening arrester	Power System Protection Lab	10.09.20 12	EL/3764/1213/10.09.2012
<b>Research Facility in Power Electronics Lab Engineering</b>				

Department of Electrical Engineering

10	Phase controlled rectifier SCR Aditron	Power Electronics Lab	24.04.20 04	1061/24.04.200 4
11	Single Phase Half Controlled Symmetrical & Asymmetrical Rectifier_ET THYSET_5/6 MR	Power Electronics Lab	17.11.20 10	EL5101/17.11. 2010
12	Voltage Commutated Chopper ET THYSET_20 MR	Power Electronics Lab	23.03.20 07	36194/23.03.20 07
13	Single phase PWM inverter Thyristor ET THYSET_25 MR	Power Electronics Lab	23.03.20 07	36193/23.03.20 07
14	Single phase PWM inverter_PET- 422	Power Electronics Lab	07.05.20 11	EL01040/07.05 .2011
15	Single phase Parallel inverter ET THYSET_18MR	Power Electronics Lab	23.03.20 07	36193/23.03.20 07
16	Buck Boost Regulator ET THYSET_21 MR	Power Electronics Lab	23.03.20 07	36193/23.03.20 07
17	Control the speed of AC motor using AC Converter with close loop option F/B with fan Rider_Powercon	Power Electronics Lab	15.02.20 06	998/24.02.2006
18	CRO 30 MHz Scientific EE/PE/CRO/4/1	Power Electronics Lab	28.01.20 03	28.01.2003
<b>Research Facility in Research &amp; Development lab in Electrical Engineering</b>				
19	UV machine	Research & Development Lab	01.06.20 12	EL/01465/1213 /01.06.2012
20	Etching Machine	Research & Development Lab	01.06.20 12	EL/01465/1213 /01.06.2012
21	Roller tinning machine	Research & Development Lab	01.06.20 12	EL/01465/1213 /01.06.2012
22	PCB drilling machine	Research & Development Lab	23.01.20 13	EL/06990/1213 /23.01.2013
23	Photo Resist Dip Coating Machine	Research & Development Lab	01.06.20 12	EL/01465/12- 13/01.06.2012

Department of Electrical Engineering



24	Dye Developer machine	Research & Development Lab	23.01.20 13	EL/06990/12-13/23.01.2013
<b>Research Facility in PLC/SCADA lab in Electrical Engineering</b>				
25	Computerised Variable Compression Ratio Diesel Engine coupled with Eddy current dynamometer	PLC/SCADA lab	10.09.20 15	08750/1563/10.09.15
26	PLC based monitoring and sequence controller system	PLC/SCADA lab	10.09.20 15	08790/1568/10.09.15



**Equipment Name:** 3-Phase Induction motors

**Make and Model:** Powercon

**Cost:** Rs. 16000/- **Year of Purchase:** 9.9.2014

Department of Electrical Engineering



**Equipment Name:** AC Synchronous motor  
**Make and Model:** Powercon  
**Cost:** Rs. 32000/- **Year of Purchase:** 9.9.2014



**Equipment Name:** Control Panel OC/SC Test of 3 Phase Transformer

**Make and Model:** PCE/EE/000173

**Cost:** Rs. 45000/- **Year of Purchase:** 9.9.2014



**Equipment Name:** Control Panel Scott Connection of 3 Phase Transformer

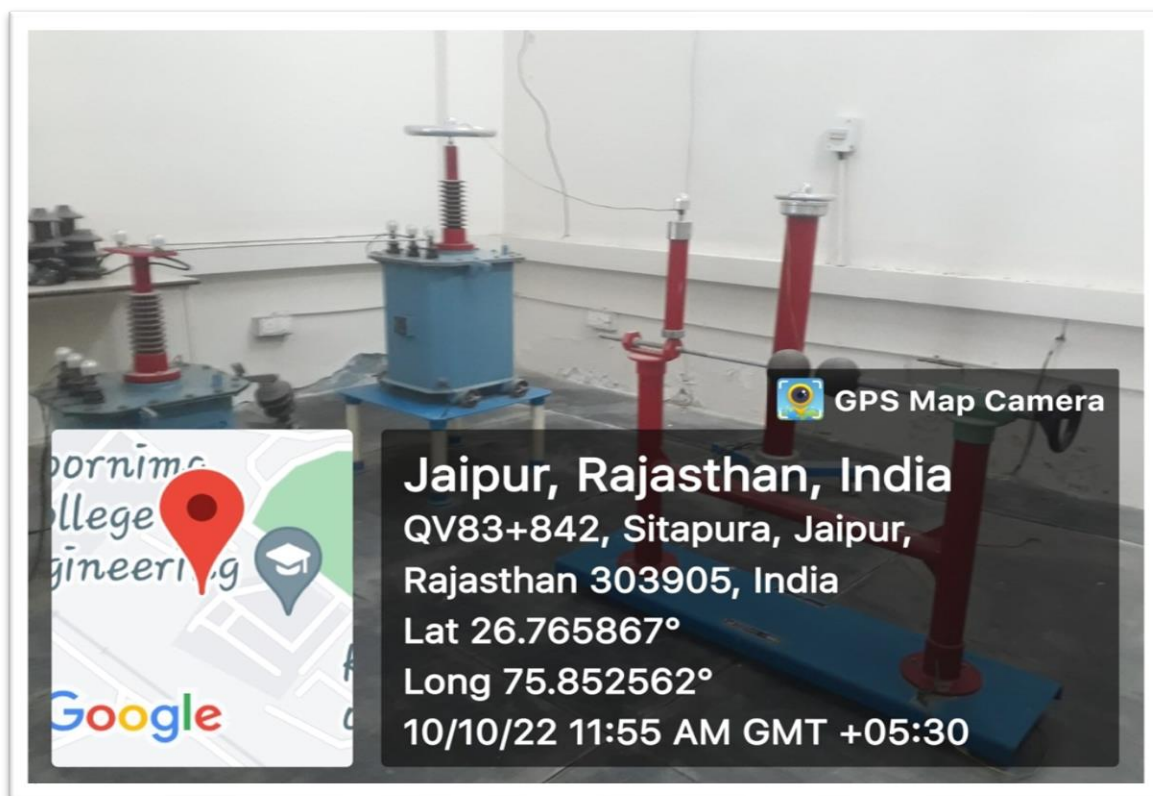
**Make and Model:** PCE/EE/000148

**Cost:** Rs. 67000/- **Year of Purchase:** 9.9.2014





**Equipment Name:** Burden Effect of CT  
**Make and Model:** Powercon  
**Cost:** Rs. 50000/-      **Year of Purchase:** 18.08.2004



**Equipment Name:** HT & LT bushing, lightening arrester

**Make and Model:** High voltage (INDIA)

**Cost:** Rs. 57000/- **Year of Purchase:** 9.9.2014



**Equipment Name:** Oil Testing Machine  
**Make and Model:** Protection systems (INDIA)  
**Cost:** Rs. 87000/- **Year of Purchase:** 9.9.2014





**Equipment Name:** High voltage transmission line simulation panel

**Make and Model:** Protection systems (INDIA)

**Cost:** Rs. 75000/- **Year of Purchase:** 9.9.2014

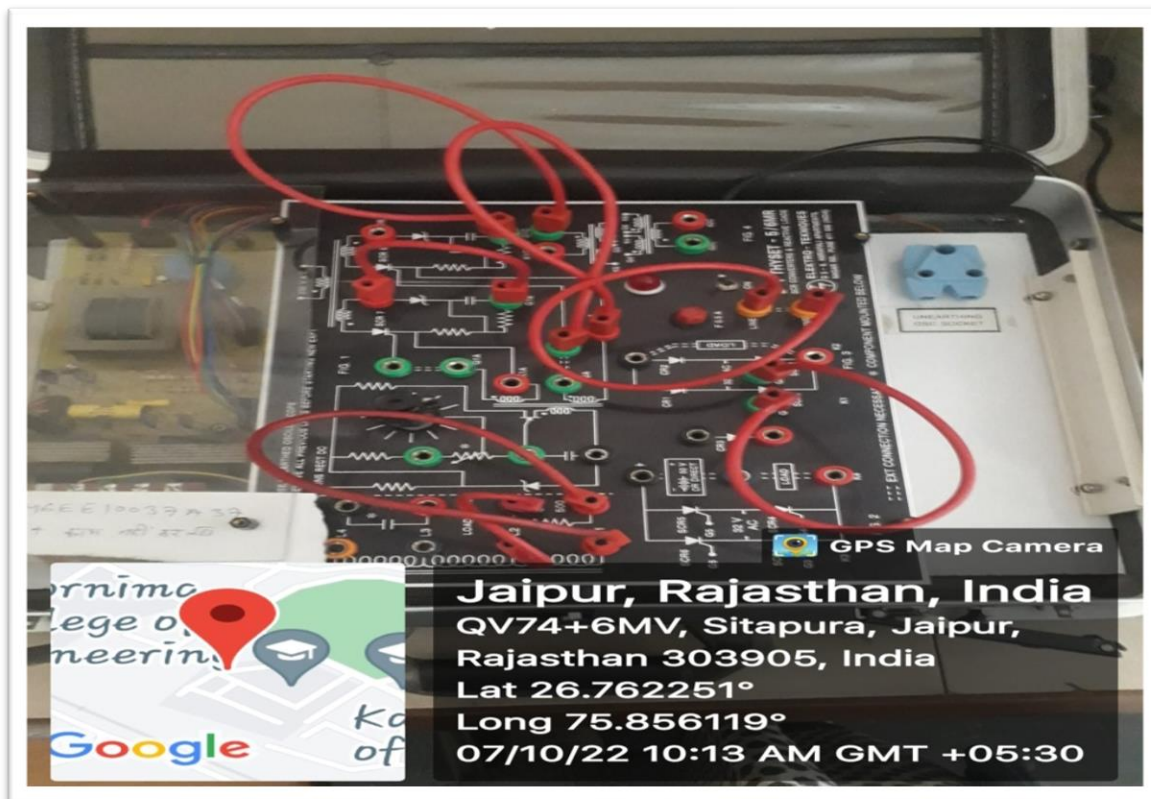


**Equipment Name:** Transformer oil filtering Machine

**Make and Model:** High voltage (INDIA)

**Cost:** Rs.150000/- **Year of Purchase:** 9.9.2014

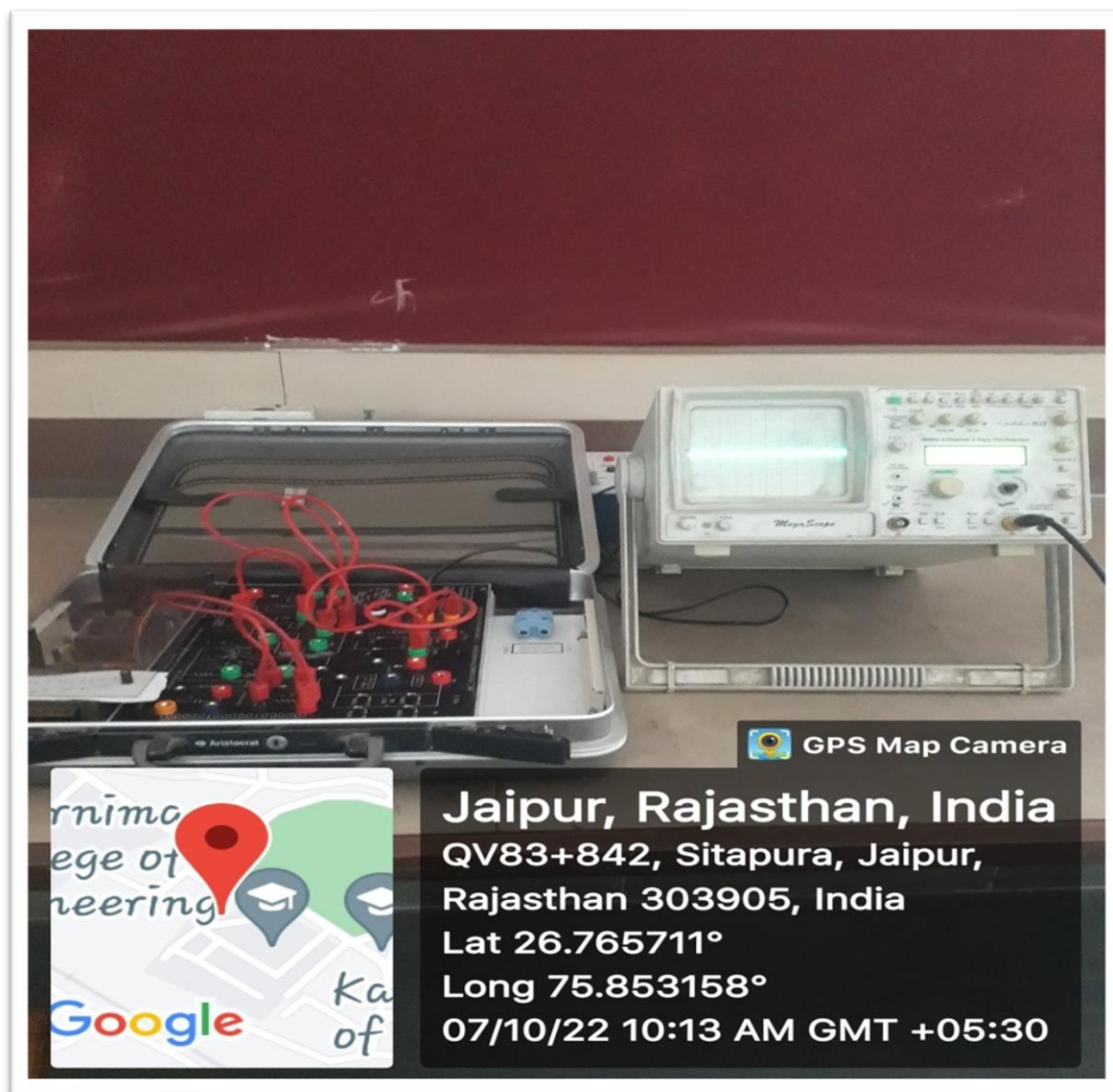
Department of Electrical Engineering



**Equipment Name:** Single Phase Half Controlled Symmetrical & Asymmetrical Rectifier

**Make and Model:** ET THYSET\_5/6 MR

**Cost:** Rs. 25000/- **Year of Purchase:** 17.11.2010



**Equipment Name:** Voltage Commutated Chopper

**Make and Model:** ET THYSET\_20 MR

**Cost:** Rs. 21500/- **Year of Purchase:** 23.03.2007





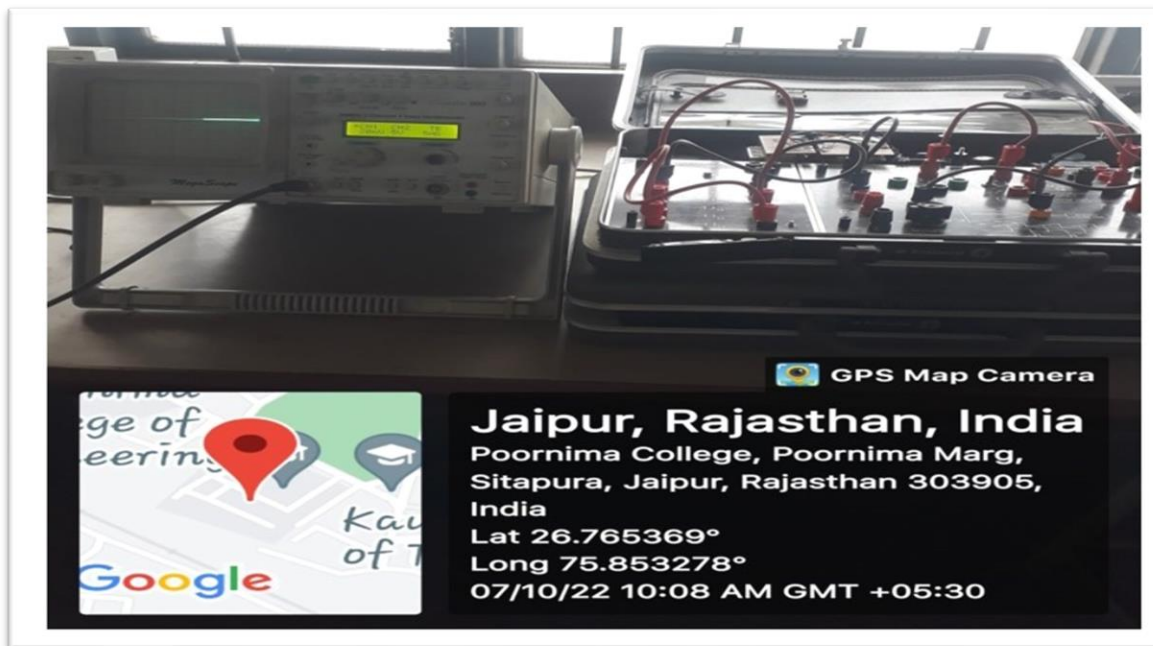
**Equipment Name:** Single phase PWM inverter  
**Make and Model:** OMEGA PET-422  
**Cost:** Rs. 25000/- **Year of Purchase:** 23.03.2007



**Equipment Name:** Single phase Parallel inverter

**Make and Model:** ET THYSET\_18MR

**Cost:** Rs. 14500/- **Year of Purchase:** 23.03.2007



**Equipment Name:** Buck Boost Regulator

**Make and Model:** ET THYSET\_21 MR

**Cost:** Rs.25000/- **Year of Purchase:** 23.03.2007

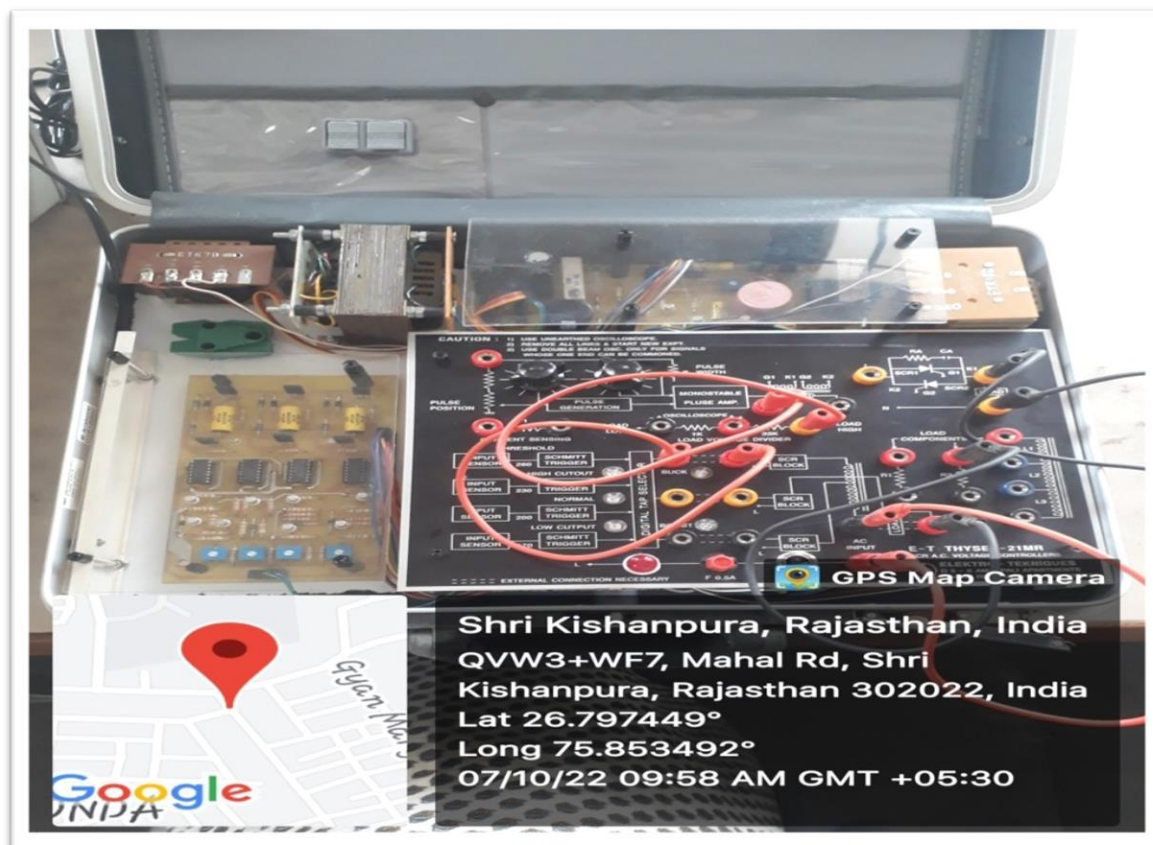




**Equipment Name:** Control the speed of AC motor using AC Converter with close loop option F/B with fan Rider

**Make and Model:** Powercon

**Cost:** Rs.35000/- **Year of Purchase:** 15.02.2006



**Equipment Name:** Buck, Boost and Buck Boost regulator

**Make and Model:** ET-Thyset-21MR

**Cost:** Rs.35000/- **Year of Purchase:** 23.03.2007



**Equipment Name:** UV machine

**Make and Model:** Ultra II

**Cost:** Rs.125000/- **Year of Purchase:** 01.06.2012



**Equipment Name:** Roller tinning machine

**Make and Model:** Ultra II

**Cost:** Rs.56000/- **Year of Purchase:** 01.06.2012





**Equipment Name:** Photo Resist Dip Coating Machine

**Make and Model:**

**Cost:** Rs. 26500/- **Year of Purchase:** 2012

Department of Electrical Engineering



**Equipment Name:** Etching Machine

**Make and Model:** ULTRA-II

**Cost:** Rs.135000/- **Year of Purchase:** 2012



**Equipment Name:** Dye Developer Machine

**Make and Model:** ME-5755DR-4

**Cost:** Rs.95000/- **Year of Purchase:** 2013





**Equipment Name:** PCB drilling machine

**Make and Model:** ME-5565DR-2

**Cost:** Rs. 175000/- **Year of Purchase:** 2013

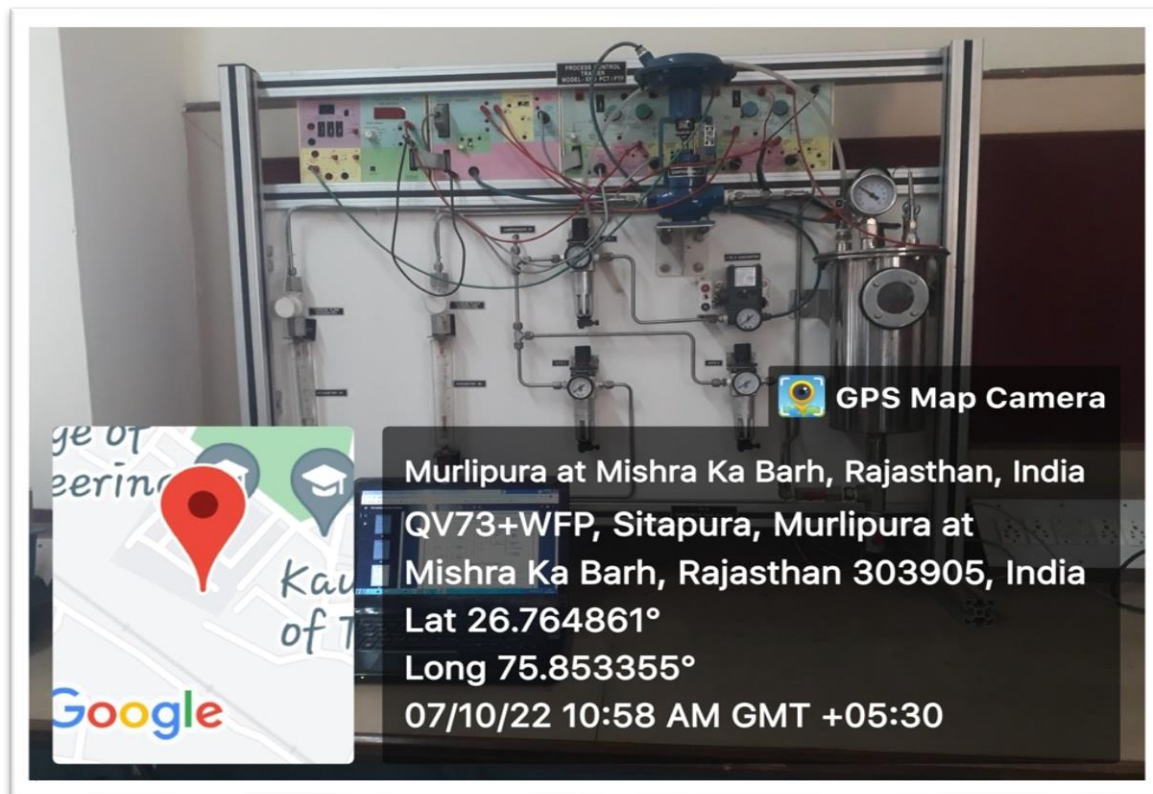


**Equipment Name:** PLC based monitoring and sequence controller system

**Make and Model:** Technical Teaching Equipments, Bangalore (Kirloskar TV1)

**Cost:** Rs.13,15,139/- **Year of Purchase:** 2015

Department of Electrical Engineering



**Equipment Name:** Computerised Variable Compression Ratio Diesel Engine coupled with Eddy current dynamometer

**Make and Model:** Technical Teaching Equipment, Bangalore (Kirloskar TV1)

**Cost:** Rs.11,25,139/- **Year of Purchase:** 2015



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### *Research Facilities in Department of Electronics & Communication Engineering*

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

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

### Research Facilities

S. No	Name of Equipment	Laboratory	Quantity	Cost	Bill no. & Date
1	SENSE- nut ProLab	Advancement in Wireless & Optical Fiber Lab	1	4,72,000/-	EGIEN/1819/T-72/ 25.3.2019
2	Advanced Fiber Optic Communication Trainer	Advancement in Wireless & Optical Fiber Lab	2	94,400/-	SAL-0145/27/03/2019
3	Power Meter	Advancement in Wireless & Optical Fiber Lab	1	35,400/-	SAL-0145/27/03/2019
4	ENA Vector Analyzer	Advanced Microwave Engineering Lab	1	8,37,000/-	SAL-0069/16/12/2019
5	Antenna Trainer Kit	Wireless Communication Lab	1	2,14,209/-	EL/01673/12-13/09/06/2012
			5	5,84,588/-	EL/03507/12-13/30/08/2012
			1	2,14,200/-	EL/01678/12-13/09/06/2012
6	Radar Trainer Kit	Wireless Communication Lab	2	1,12,613/-	EL/012271/12-13/24/05/2012
			1	51,350/-	EL/3930/09-10/10-09-2009
7	Satellite Trainer Kit	Wireless Communication Lab	2	1,68,919/-	EL/01299/12-13/28/05/2012
			1	80,106/-	EL/3423/09-10/24/08/2009
8	GPS Trainer Kit	Wireless Communication Lab	1	40,258/-	EL/3308/09-10/19/08/2009
			2	85,893/-	EL/01153/12-13/12/05/2012
9	Logic Analyzer Kit	Wireless Communication Lab	1	58,745/-	EL/3423/09-10/24/08/2009
10	Fiber Optic Trainer Kit	Wireless Communication Lab	4	61,103/-	EL/07307/11-12/23/01/2012
			3	71,820/-	EL/00199/11-12/11/04/2011
			2	35,256/-	EL/05677/15-16/05/01/2016
11	CDMA DSSS Trainer Kit	Wireless Communication Lab	1	1,44,602/-	EL/3423/09-10/24/08/2009
			2	3,42,672/-	EL/01153/12-13/12/05/2012

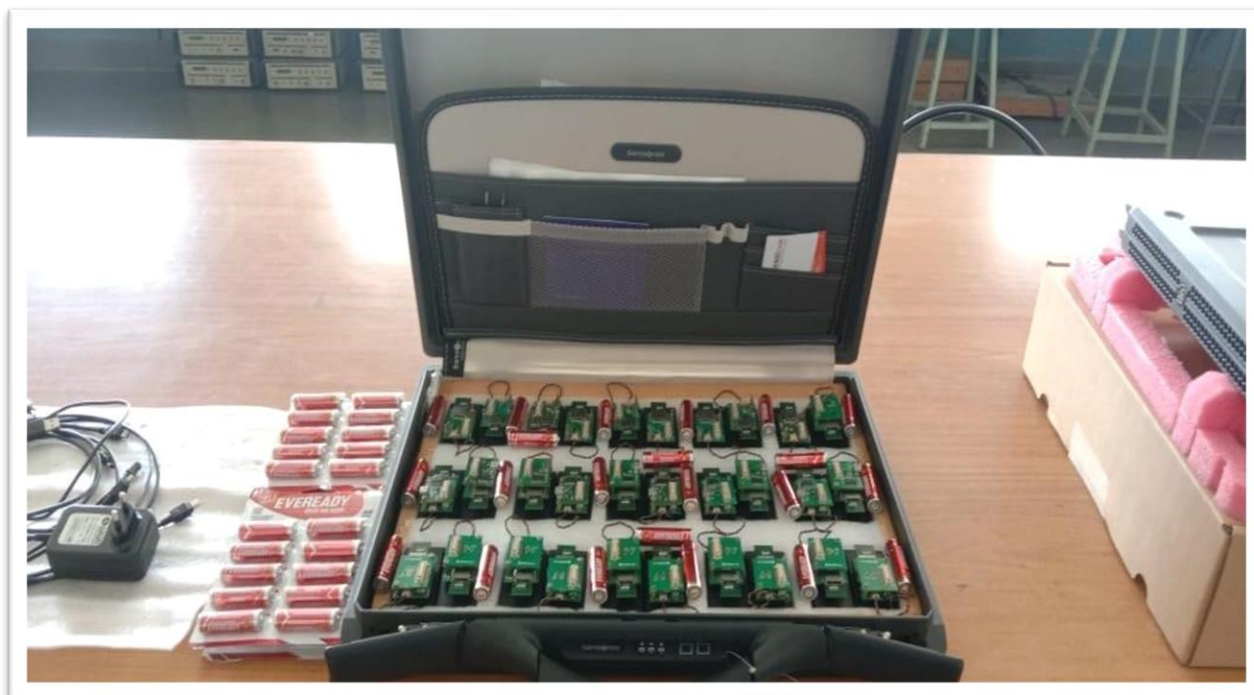


12	Digital Storage Oscilloscope	Wireless Communication Lab	8	1,86,900/-	SAL-040/ 03/08/2015
13	SENSE- nut interface Software	Advancement in Wireless & Optical Fiber Lab	1	Mention in Above	EGIEN/1819/T-72/ 25.3.2019
14	CST MW Software 2020 (20 Users)	Advanced Microwave Engineering Lab	20 users	1,53,400/-	R-191/ 2019-20/ 16/12/2019
15	Spectrum Analyzer	Wireless Communication Lab	1	2,20,000/-	TS/20-21/0065/ 23/09/2020
			1	98,666/-	EL/2631/10-11/ 30/07/2010
16	Optical Communication Software (Optisystem Version-16)	Advancement in Wireless & Optical Fiber Lab	2 users	6,90,300/-	HRU/2018-19/17/ 26/03/2019
17	Digital Signal Processing Development	Wireless Communication Lab	10	3,38,000/-	EL/3027/09-10/ 03/08/2009
18	FPGA Trainer Kit (mission 10X)	Wireless Communication Lab	6	96,154/-	EL/07626/12-13/ 19/02/2013
			4	53,193/-	EL/07082/11-12/ 13/01/2012
19	Raspberry Pi	IOT Lab	1	3,500/-	MIC299/ 28/02/2020
			9	31,500/-	MIC299/ 28/02/2020
20	Microwave Test Bench	Microwave Lab	4	2,41,250/-	EL/1308/10-11/ 31/05/2010
			2	1,44,750/-	
			3	1,35,100/-	
			2	1,49,948/-	EL/1240/12-13/ 25/05/2012
21	RF/ Microwave Circuit Board	Microwave Lab	1	2,36,000/-	SAL-0069/ 16/12/2019
22	Advanced MIC Trainer Kit	Microwave Lab	2	2,53,151/-	El/03065/17-18/25/05/2017
23	Art Work Film Maker Proto Contact	Project Lab	1	15106/-	El/6739/07-08/ 22-01-2008
24	PCB Curing Machine	Project Lab	1	12450/-	
25	PCB Photo resist Dip Coat	Project Lab	1	19090/-	
26	PCB UV Exposure Proto	Project Lab	1	19920/-	
27	PCB Etching Machine	Project Lab	1	19712/-	

28	PCB Drilling Machine	Project Lab	1	13280/-	EI/6739/07-08/ 22-01-2008
29	PCB Shearing Machine	Project Lab	1	11620/-	
30	PCB Tinning Machine	Project Lab	1	27390/-	
31	PCB Proto Dye Developer Machine	Project Lab	1	17430/-	
32	PCB Artwork Table Illuminated	Project Lab	1	7470/-	
33	PCB Etching Machine	Project Lab	1	17818/-	EL/155/10-11/ 09-04-2010



## SENSEnuts Kit

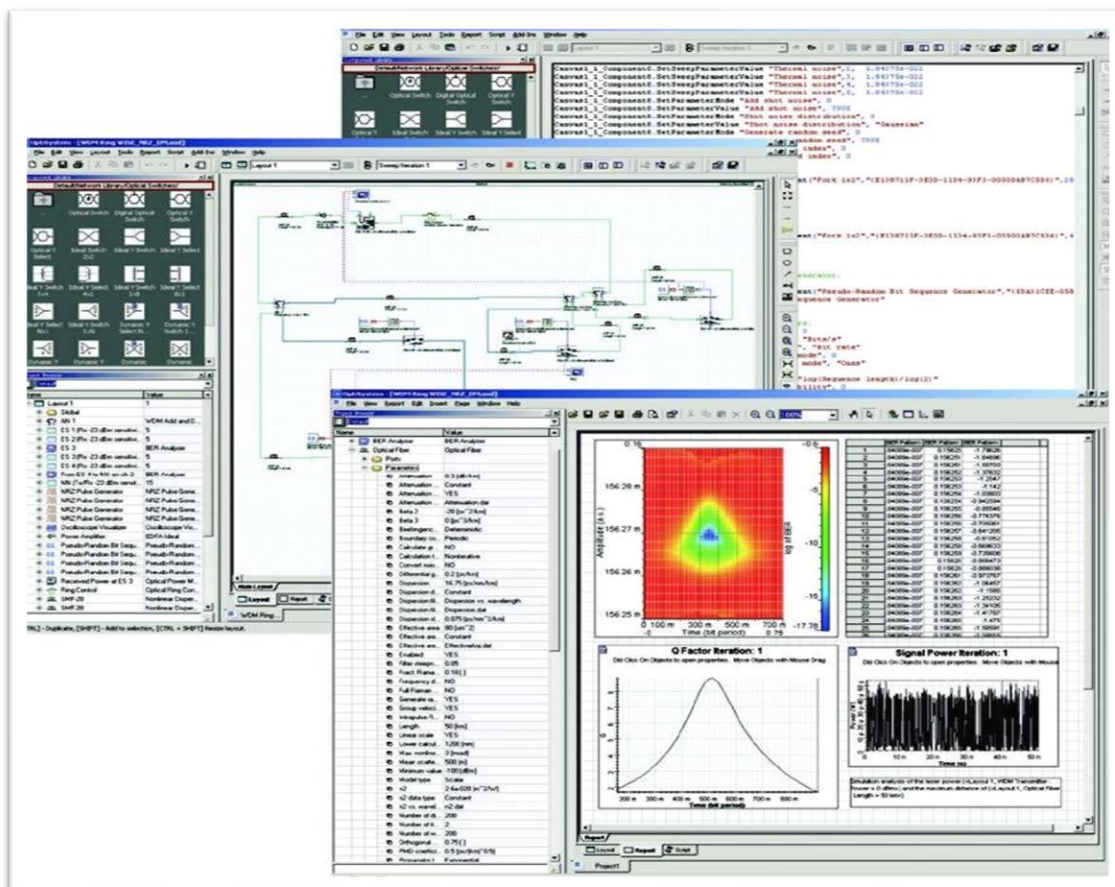


## SENSEnuts Modules



**Equipment Name: SENSEnut ProLab**  
**Make and Model: EIGEN Technologies Pvt. Ltd**  
**Cost Rs. 4,72,000/-**  
**Bill No. : EGIEN/1819/T-72/ 25.3.2019**  
**Year of Purchase: 2019**

## Opti-system 17.1



**Equipment Name: Opti-system Version-17.1**

**USER: 2 users**

**Make and Model: Optiwave Photonic Software**

**Cost Rs. 6,90,300/-**

**Bill No.: HRU/2018-19/17/ 26/03/2019**

**Year of Purchase: 2019**

Department of Electronics & Communication Engineering

## Advanced Fibre Optical Communication Training Kit



**Equipment Name: Advanced Fiber Optic Communication Trainer**

**Make and Model: Optiwave Photonic Software**

**Cost Rs.: 94,400/-**

**Bill No. : SAL-0145/ 27/03/2019**

**Year of Purchase: 2019**

Department of Electronics & Communication Engineering



### ENA vector network Analyzer



**Equipment Name: ENA vector network Analyzer**

**Make and Model: keysight technologies**

**Cost Rs.: 8,37,000/-**

**Bill No. : SAL-0069/ 16/12/2019**

**Year of Purchase: 2019**



## Power Meter



**Equipment Name: Power Meter**

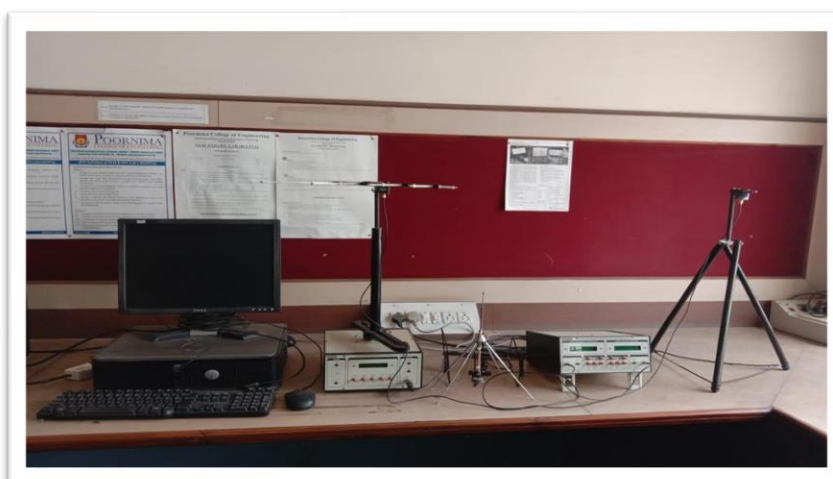
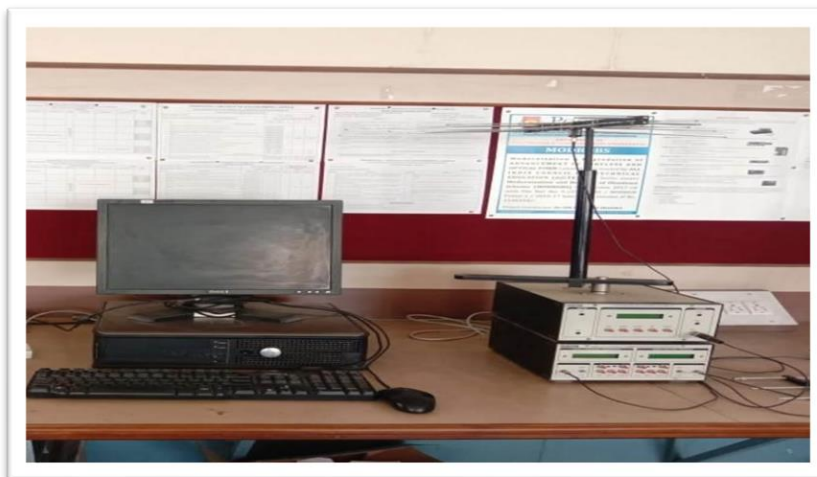
**Make and Model: Techtest**

**Cost Rs.: 35,400/-**

**Bill No. : SAL-0145/ 27/03/2019**

**Year of Purchase: 2019**

## Antenna Trainer Kit



**Equipment Name: Antenna Trainer Kit.**

**Make and Model: Amitech India Pvt Ltd**

**Cost Rs.: 1. 2,14,209/- 2. 5,84,588/- 3. 2,14,200/-**

**Bill No.: 1. EL/01673/12-13/ 09/06/2012**

**2. EL/01678/12-13/ 09/06/2012**

**3. EL/01678/12-13/ 09/06/2012**

**Year of Purchase: 2012**

## GPS Trainer Kit



**Equipment Name: GPS Trainer**  
**Make and Model: Scientech Technology re**  
**Cost Rs.: 1. 40,258/- 2. 85,893/-**  
**Bill No.: 1. EL/3308/09-10/ 19/08/2009**  
**2. EL/01153/12-13/ 12/05/2012**  
**Year of Purchase: 2009, 2012**

## Satellite Communication Trainer Kit



**Equipment Name: Satellite Communication Trainer Kit**

**Make and Model: Scientech Technology**

**Cost Rs.: 1. 1,68,919/- 2. 80,106/-**

**Bill No. : 1. EL/01299/12-13/ 28/05/2012**

**2. EL/3423/09-10/24/08/2009**

**Year of Purchase: 2009, 2012**

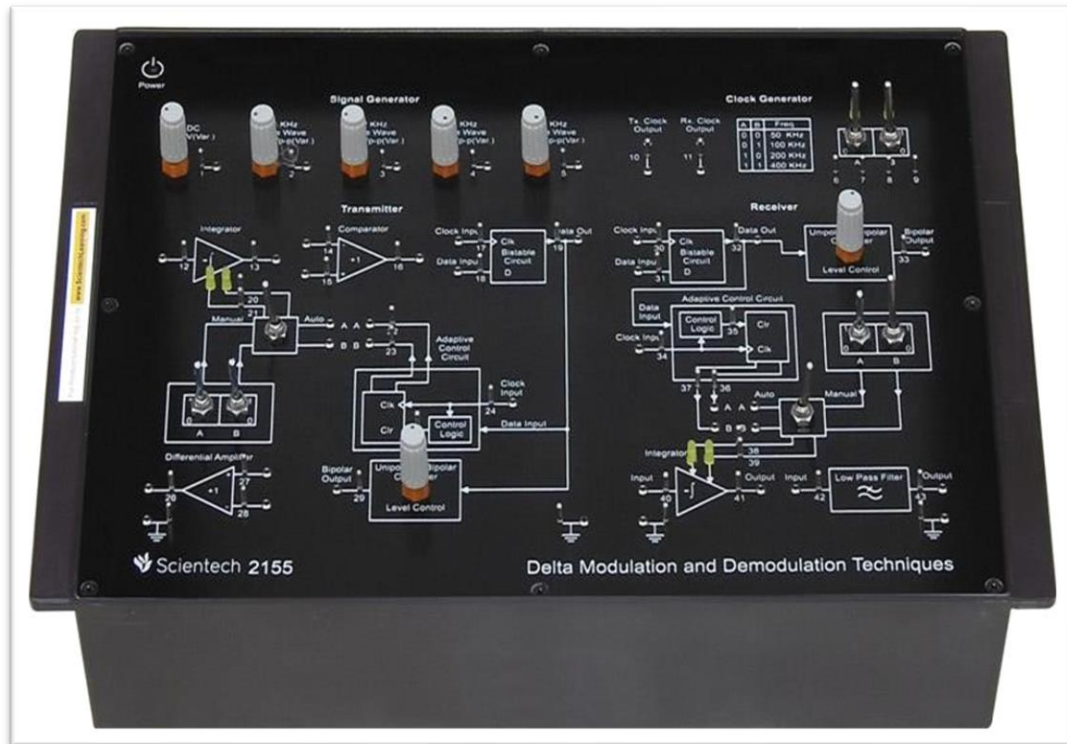


## **RADAR Trainer Kit**



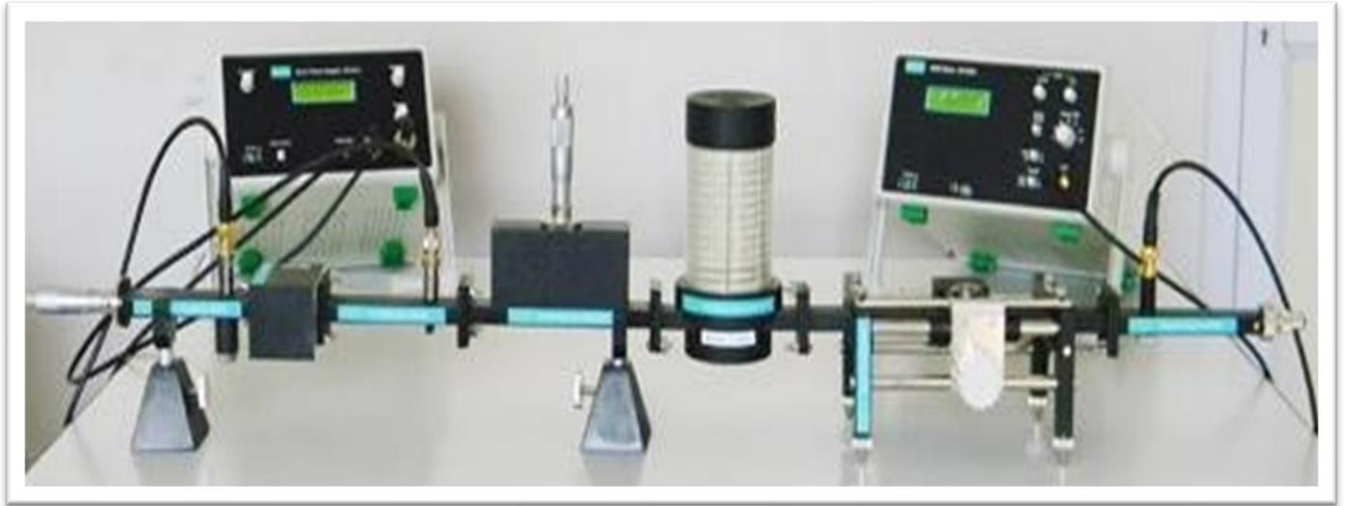
**Equipment Name: Radar Trainer**  
**Make and Model: Scientech Technology**  
**Cost Rs.: 1. 1,12,613/- 2. 51,350/-**  
**Bill No. : 1. EL/012271/12-13/ 24/05/2012**  
**2. EL/3930/09-10/ 10-09-2009**  
**Year of Purchase: 2009, 2012**

## CDMA Trainer Kit



**Equipment Name: CDMA Trainer Kit**  
**Make and Model: Scientech Technology re**  
**Cost Rs.: 1. 1,44,602/- 2. 3,42,672/-**  
**Bill No. : 1. EL/3423/09-10/ 24/08/2009**  
**2. EL/01153/12-13/ 12/05/2012**  
**Year of Purchase: 2009, 2012**

### **Microwave Test Bench Trainer Kit**



**Equipment Name: Microwave Test Bench**

**Make and Model: NVIS**

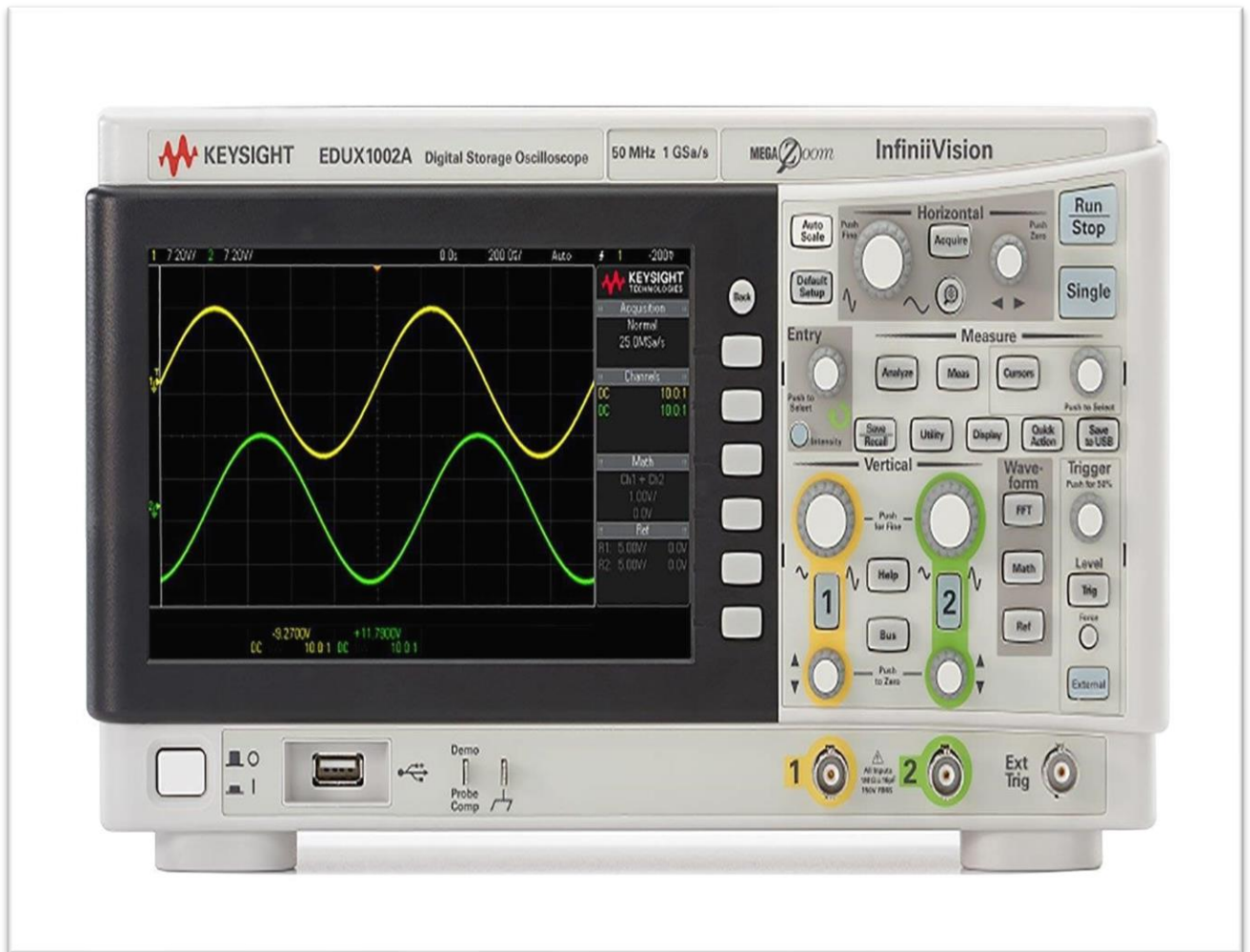
**Cost Rs.: 1. 521100/- 2. 1,49,948/-**

**Bill No. : 1. EL/1308/10-11/ 31/05/2010**

**2. EL/1240/12-13/ 25/05/2012**

**Year of Purchase: 2010**

## Digital Storage Oscilloscope



**Equipment Name: Digital Storage Oscilloscope**

**Make and Model: keysight technologies**

**Cost: Rs.: 1,86,900/-**

**Bill No. : SAL-040/ 03/08/2015**

**Year of Purchase: 2015**



## FPGA Trainer Kit



**Equipment Name: FPGA Development Board**

**Make and Model: Scientech technology**

**Cost: Rs.: 1. 96,154/- 2. 53,193/-**

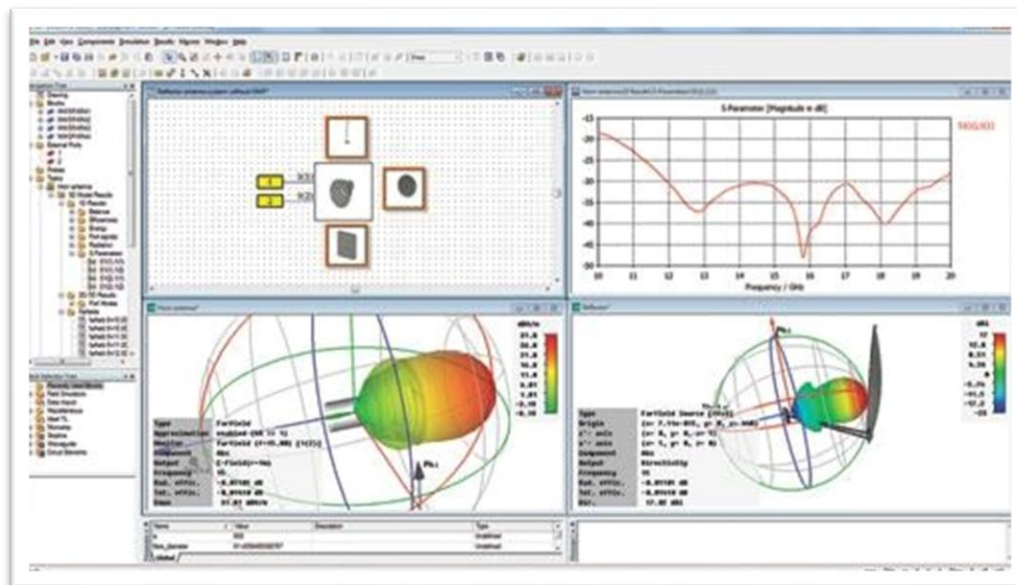
**Bill No. : 1. EL/07626/12-13/ 19/02/2013**

**2. EL/07082/11-12/ 13/01/2012**

**Year of Purchase: 2012, 2013**



## CST Studio Suite



**Equipment Name: CST STUDIO SUITE (Software)**

**Make and Model: Dassault Systems**

**User: 20 Users**

**Cost: Rs.: 1,53,400/-**

**Bill No.: R-191/ 2019-20/ 16/12/2019**

**Year of Purchase: 2019**



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### *Research Facilities in Department of Mechanical Engineering*

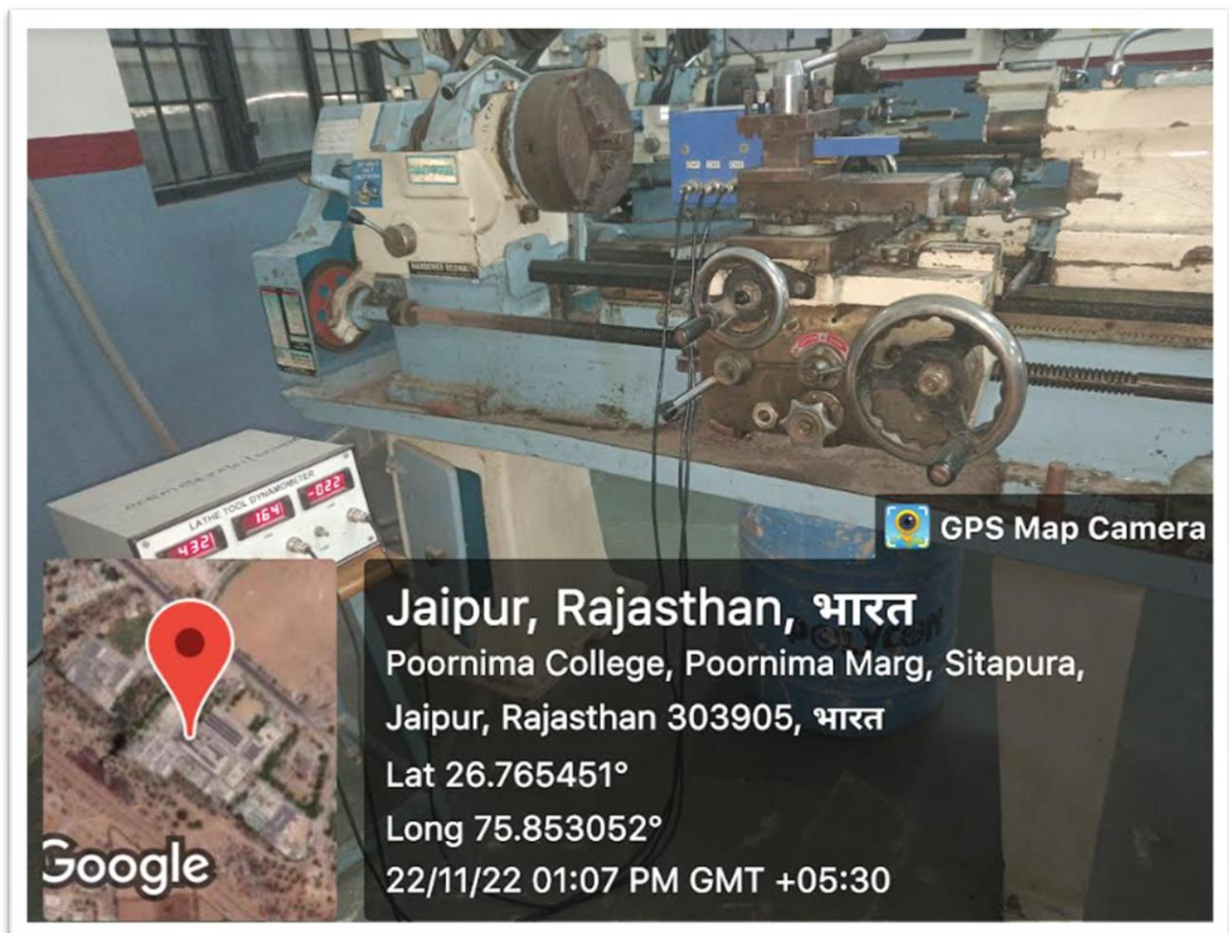
ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)  
• Phone: +91-9829255102, +91-9414728922 • E-mail: [principal.pce@poornima.org](mailto:principal.pce@poornima.org)  
• Website: [www.pce.poornima.org](http://www.pce.poornima.org)

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

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## Research Facilities

S. No	Name of Equipment	Laboratory	Date of purchase	Bill no.
1	Refrigeration Test Rig	Thermal Lab	05/10/2016	SAL-037
2	3D Printer	CAD Lab	15/07/2020	L3d/inv/2020-21/005
3	High Speed 3D Printer	CAD Lab	22/05/2022	SG/22-23/011
4	Vickers Hardness Test	Material Testing Lab	05/10/2016	SAL-037
5	Disc Polishing Machine	Material Testing Lab	05/10/2016	SAL-037
6	Digital Vernier Calliper	Material Testing Lab	05/10/2016	SAL-037
7	Muffle Furnace	Material Testing Lab	05/10/2016	SAL-037
8	Universal Vibration Apparatus	Vibration Lab	18/07/2015	EME/32/15-16/TRD
9	Critical Shaft Speed Apparatus	Vibration Lab	18/07/2015	EME/32/15-16/TRD
10	Emissivity Measurement Apparatus	Thermal Lab	01/01/2017	123758
11	Parallel and Counter Flow Double Heat Exchanger Apparatus	Thermal Lab	18/07/2015	EME/32/15-16/TRD
12	TIG Welding	P&I Lab	08/09/2016	SAL-025
13	SPOT Welding	P&I Lab	10/07/2015	SAL-18
14	MIG Welding	P&I Lab	10/06/2017	SAL-013
15	Submerged Arc Welding	P&I Lab	08/09/2016	SAL-013



**Equipment Name: Lathe Machine**

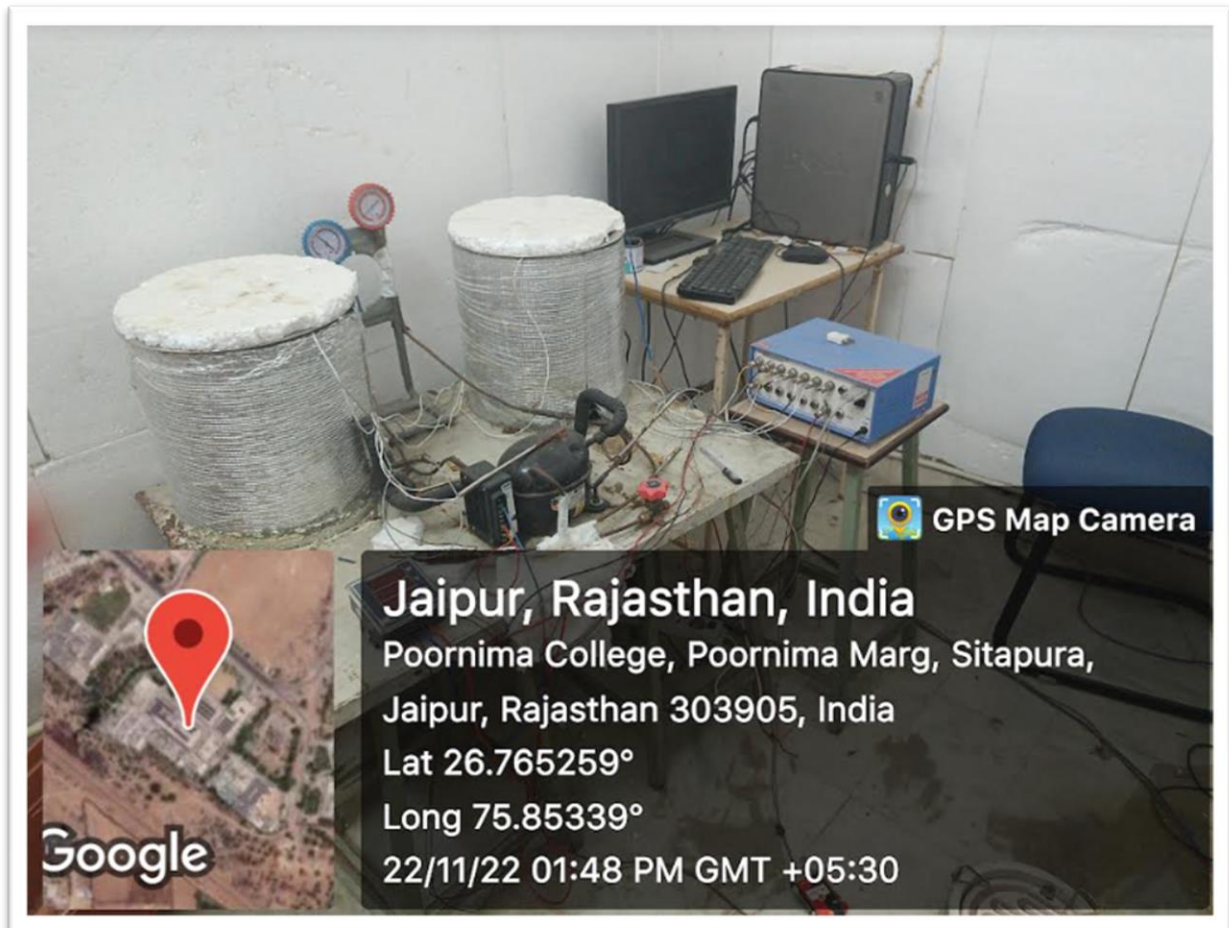




### Submerged Arc Welding

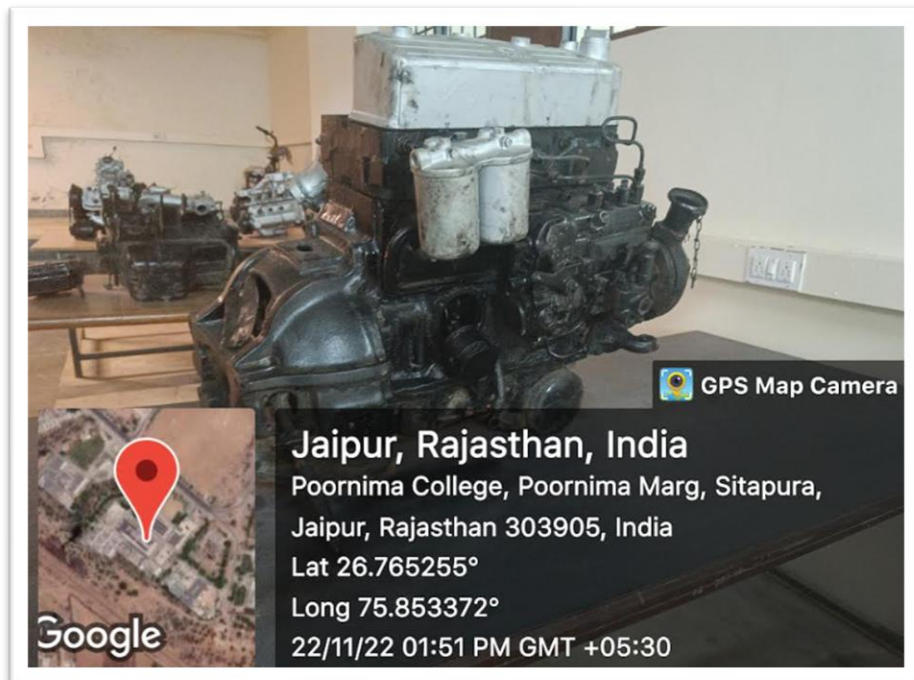
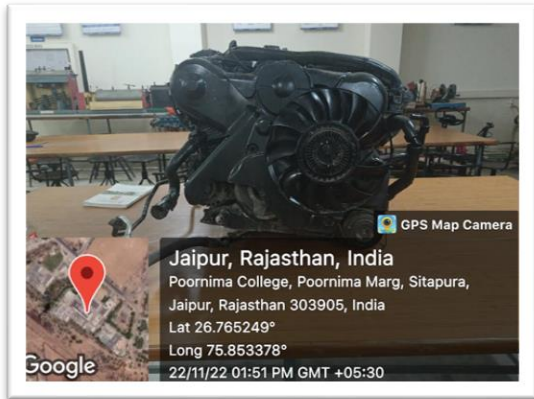


**Surface Polishing Machine**



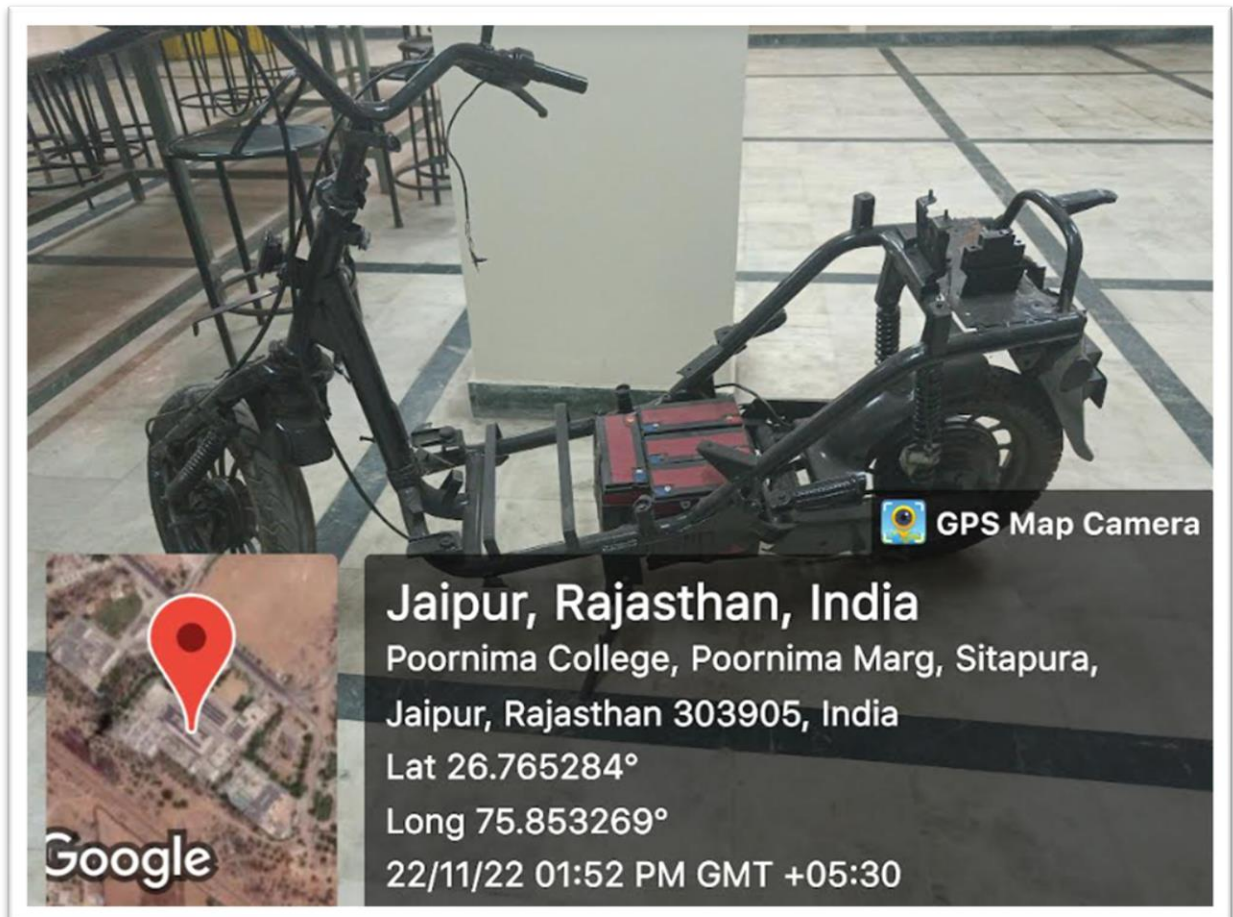
### Refrigeration and Air Conditional Experimental Setup





## Experimental Setup





### Electrical Vehicle Setup

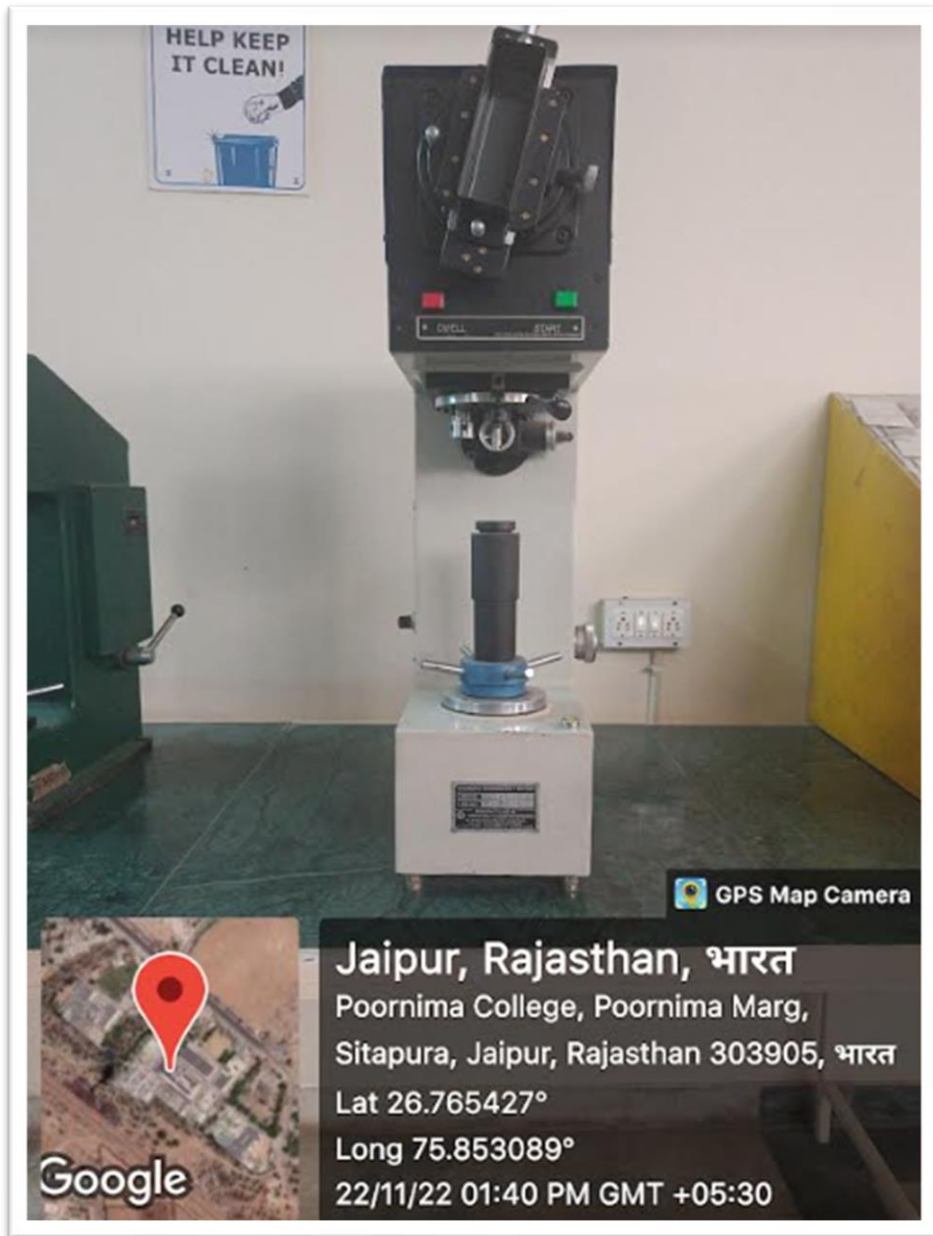


**High Speed Three-Dimensional (3D) Printer**



**Universal Testing Machine**





**Vickers Hardness Tester**





**Solar Energy based Experimental Setup**



# 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

### *Research Facilities in Department of Civil Engineering*

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

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

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

### Research Facility in Geotechnical Engineering Lab

S. No.	Name of Equipment	Laboratory	Date of purchase & cost	Bill no. & Date
1	CORE-CUTTER APPARATUS	GEOTECHNICAL LAB	2/6/2014 2100/-	8 2/6/2014
2	CONE PENTOMETER APPARATUS	GEOTECHNICAL LAB	2/6/2014 3600/-	8 2/6/2014
3	PERMEABILITY TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 22500/-	9 2/6/2014
4	CBR TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 74500/-	9 2/6/2014
5	CONSOLIDATION TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 46000/-	9 2/6/2014
6	DIRECT SHEAR TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 70600/-	9 2/6/2014
7	TRI- AXIAL TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 138000/-	9 2/6/2014
8	UNCONFINED COMPRESSION TEST APPARATUS	GEOTECHNICAL LAB	2/6/2014 41800/-	8 2/6/2014
9	OVEN	GEOTECHNICAL LAB	2/6/2014 9400/-	9 2/6/2014
10	PLASTIC LIMIT APPARATUS	GEOTECHNICAL LAB	2/6/2014 1700/-	8 2/6/2014
11	PROCTER TEST (LIGHT)	GEOTECHNICAL LAB	2/6/2014 4200/-	82/6/2014
12	PROCTER TEST (HEAVY)	GEOTECHNICAL LAB	2/6/2014 6800/-	8 2/6/2014
13	CASSAGRANDE APPARATUS	GEOTECHNICAL LAB	2/6/2014 1300/-	8 2/6/2014

## Research Facility in Civil Engineering Material



**Equipment Name: V CAT APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 2600/- Year of Purchase: 2012**





**Equipment Name: WATER BATH**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 8800/- Year of Purchase: 2012**



**Equipment Name: WEIGHT BALANCE MACHINE**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 8500/- Year of Purchase: 2012**



**Equipment Name: BLAIN'S AIR PERMABILITY APPARATUS**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs. 2200/- Year of Purchase: 2020**

Department of Civil Engineering





**Equipment Name: CONCRETE PERMEABILITY TEST AP  
 APPARATUS**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs. 61600/- Year of Purchase: 2020**

Department of Civil Engineering





**Equipment Name: BEAM**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 3200/- Year of Purchase: 2020**



**Equipment Name: FLEXURAL STRENGTH BEAM**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 1200/- Year of Purchase: 2020**



**Equipment Name: COMPRESSION TESTING MACHINE**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.80500/-**

**Year of Purchase: 2012**

Department of Civil Engineering





**Equipment Name: CONCRET MIXER**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.65000/- Year of Purchase: 2017**

Department of Civil Engineering





**Equipment Name: FLOW TABLE**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.15700/- Year of Purchase: 2012**

**Department of Civil Engineering**

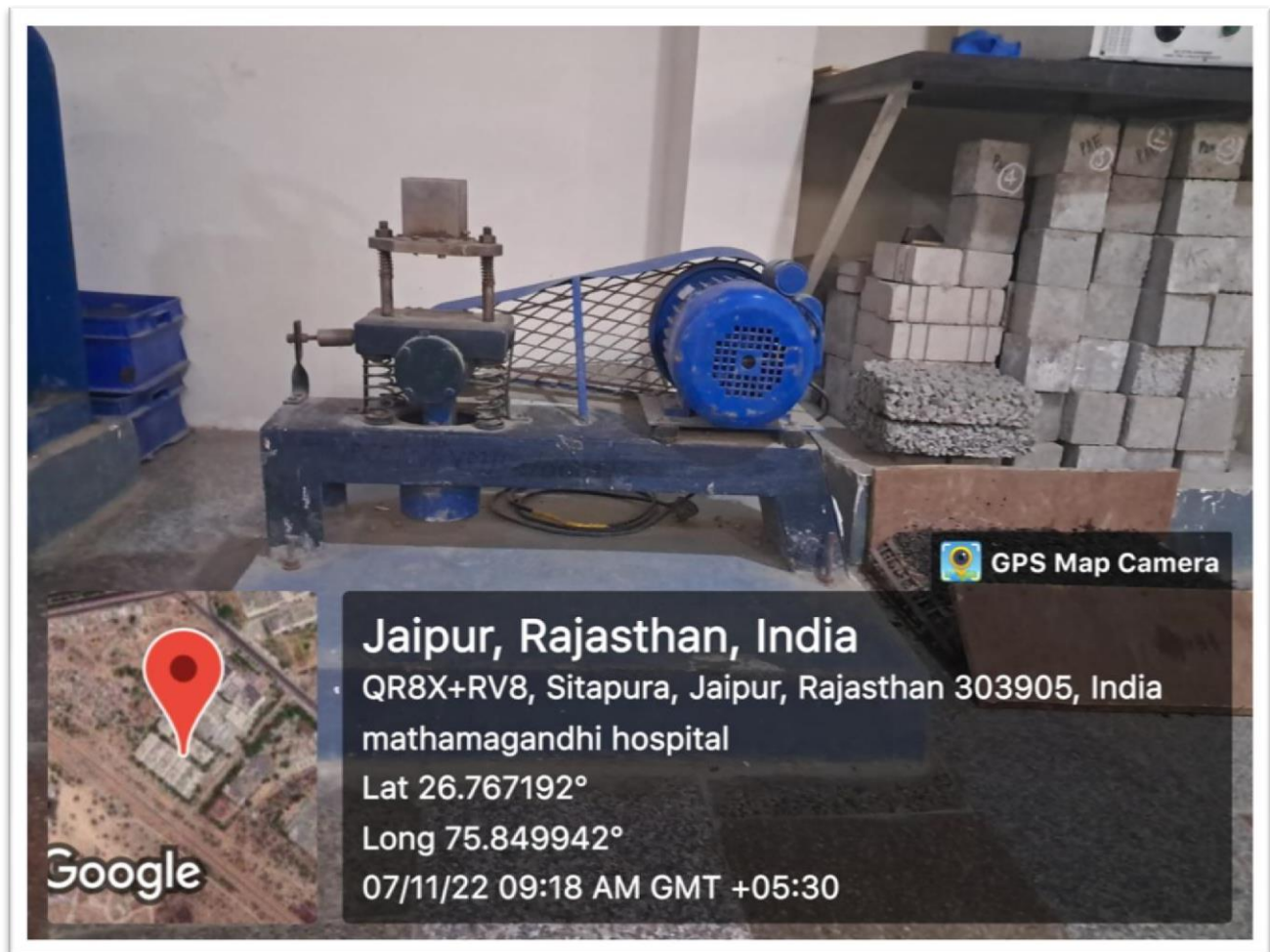


**Equipment Name: REBOUND HAMMER**  
**Make and Model: SHIVAM ENTERPRISES**  
**Cost: Rs.9400/- Year of Purchase: 2016**



**Equipment Name: SLUMP TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.2100/- Year of Purchase: 2012**

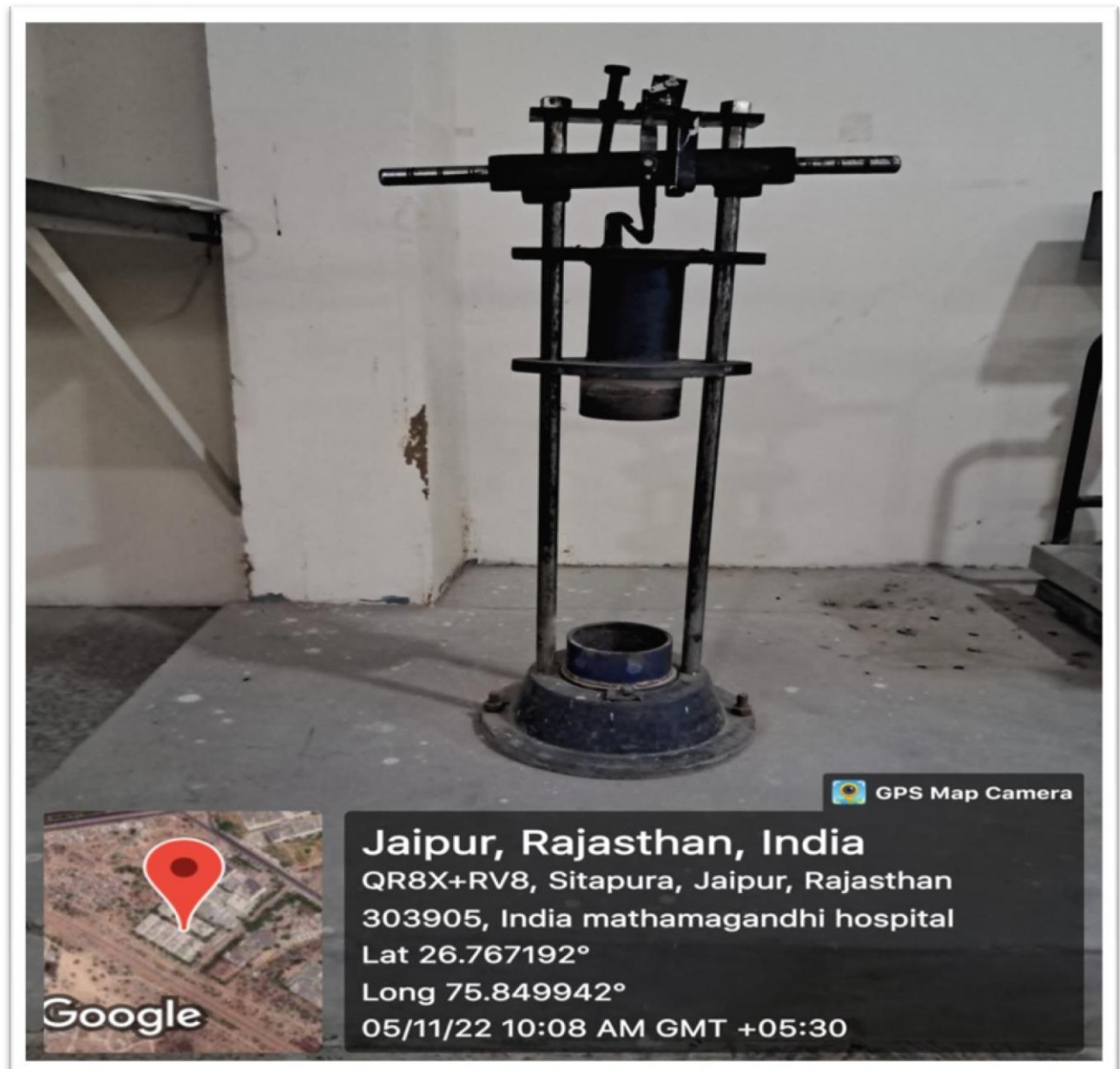




**Equipment Name: VIBRATING TABLE**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 23800/- Year of Purchase: 2012**



### Research Facility in Road Material Engineering



**Equipment Name: AGGRAGATE IMPACT TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.8500/- Year of Purchase: 2013**



**Equipment Name: DUCTILITY TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 48100 /- Year of Purchase: 2013**

Department of Civil Engineering



**Equipment Name: LOS ANGELES ABRASSION TESTING MACHINE**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.62500/- Year of Purchase: 2013**

Department of Civil Engineering





**Equipment Name: MARSHAL APPARATUS**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.65200/- Year of Purchase: 2013**

**Department of Civil Engineering**





**Equipment Name: RING & BALL APPARATUA**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.7600/- Year of Purchase: 2013**



**Equipment Name: STANDERD TAR VISCOMETER**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 7600/-**  
**Year of Purchase: 2013**

Department of Civil Engineering



**Equipment Name: CRUSHING VALUE APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.6700/- Year of Purchase: 2013**

Department of Civil Engineering



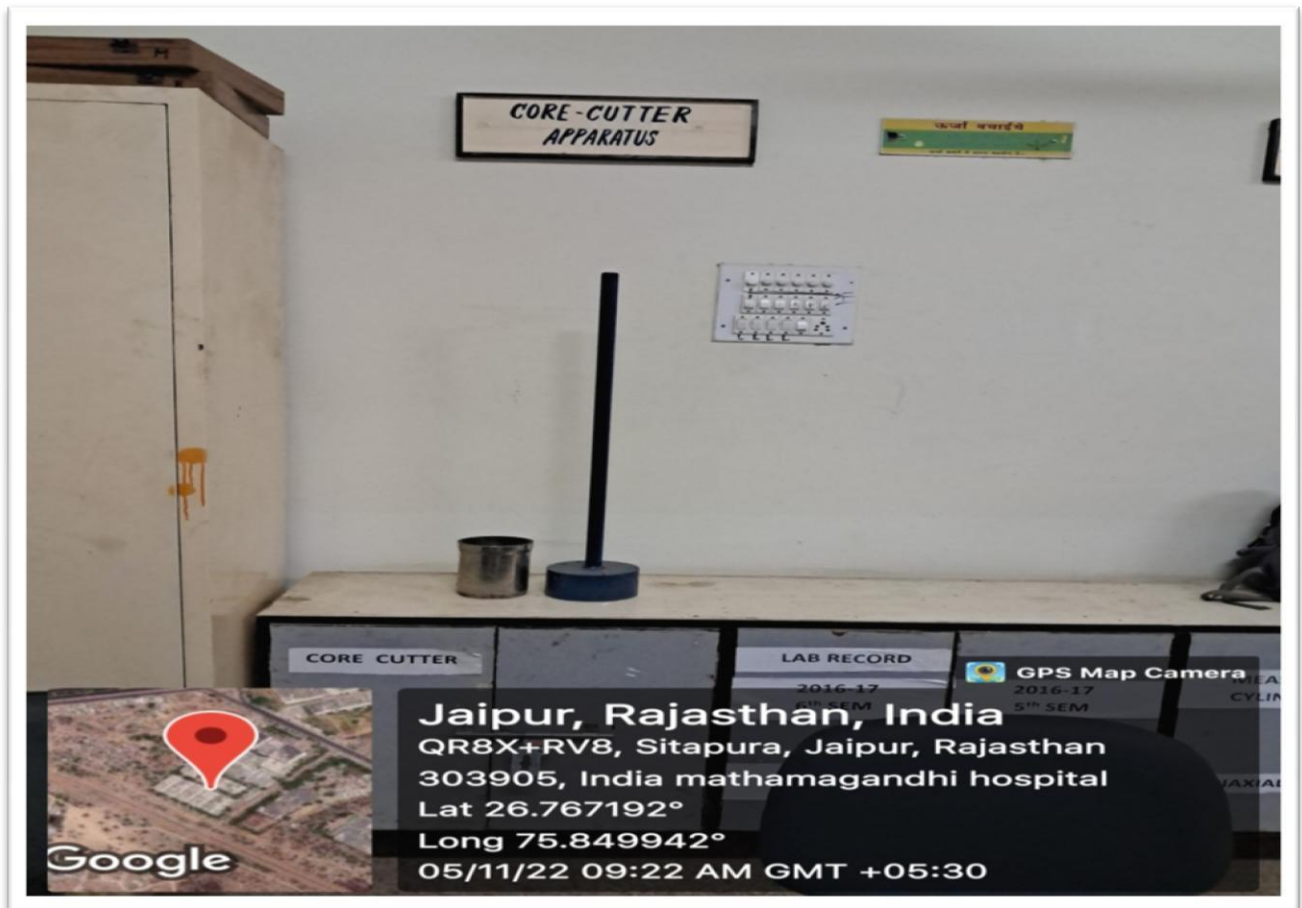


**Equipment Name: SIEVE SHAKER**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.23800/- Year of Purchase: 2013**

Department of Civil Engineering



## Research Facility in Geotechnical Engineering



**Equipment Name: CORE CUTTER APPARATUS**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.2100/- Year of Purchase: 2014**



**Equipment Name: CONE PENTOMETER APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.3600/- Year of Purchase: 2014**

Department of Civil Engineering



**Equipment Name: PERMEABILITY TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 22500/- Year of Purchase: 2014**



**Equipment Name: CBR TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 74500/- Year of Purchase: 2014**

Department of Civil Engineering





**Equipment Name: CONSOLIDATION TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 46000/- Year of Purchase: 2014**



**Equipment Name: DIRECT SHEAR TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 70600/- Year of Purchase: 2014**  
**Department of Civil Engineering**



**Equipment Name: TRI- AXIAL TEST APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs. 138000/- Year of Purchase: 2014**





**Equipment Name: UNCONFINED COMPRESSION TEST APPARATUS**

**Make and Model: ENGINEERING MODELS & EQUIPMENT**

**Cost: Rs.4 1800/- Year of Purchase: 2014**

Department of Civil Engineering



]



**Equipment Name: OVEN**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.9400/- Year of Purchase: 2014**



**Equipment Name: PLASTIC LIMIT APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.1700/- Year of Purchase: 2014**



**Equipment Name: PROCTER TEST (LIGHT)**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.4200/- Year of Purchase: 2014**





**Equipment Name: PROCTER TEST (HEAVY)**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.6800/- Year of Purchase: 2014**





**Equipment Name: CASSAGRANDE APPARATUS**  
**Make and Model: ENGINEERING MODELS & EQUIPMENT**  
**Cost: Rs.5200/- Year of Purchase: 2014**



# POORNIMA

## COLLEGE OF ENGINEERING

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UGC under Section 2(f) of the UGC Act, 1956

## *Research Facilities in Department of Computer Engineering & IT*

ISI-6, RIICO Institutional Area, Sitapura, Jaipur-302022 (Rajasthan)


• Phone: +91-9829255102, +91-9414728922 • E-mail: principal.pce@pcepoornima.org

Website: [www.pce.poornima.org](http://www.pce.poornima.org)

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

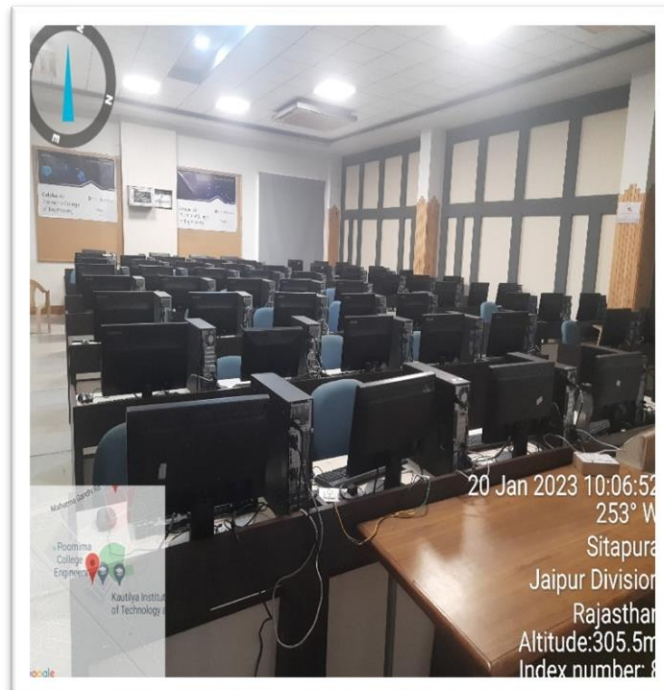
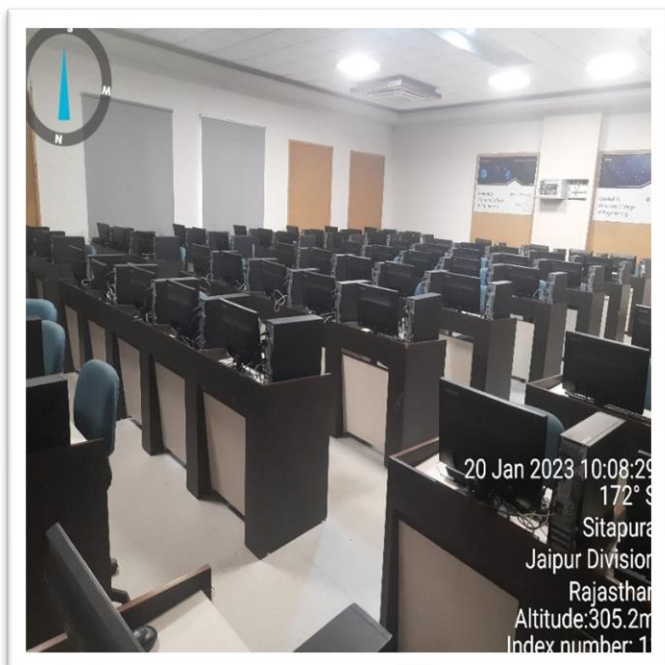
Poornima College of Engineering  
ISI-6, RIICO Institutional Area  
Sitapura, JAIPUR

### Research Facilities

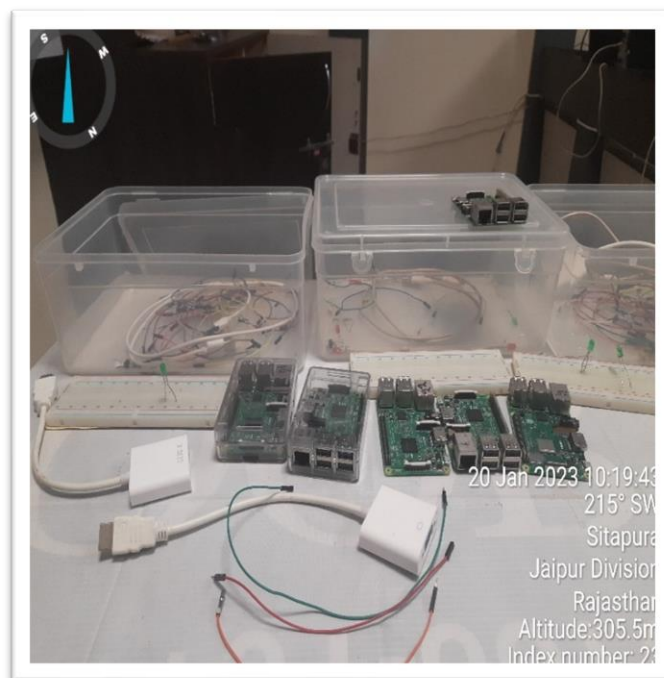
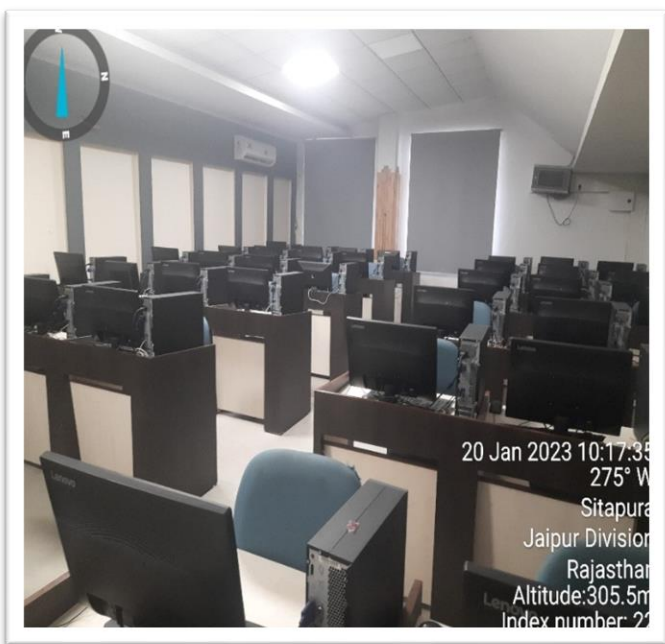
S. No	Name of Equipment/ Software	Laboratory	Quantity	Cost	Bill no. & Date
1	<b>Operating System:</b> Microsoft Windows 10 Pro  <b>Processor:</b> Intel(R) Core(TM) i5-6400 CPU @ 2.70GHz, 2712 Mhz, Core(s), 4 Logical Processor(s)  <b>RAM:</b> 8.00 GB  <b>HDD:</b> 1 TB	AI & Big Data Lab (COE)	70	34,27,500.00	BDCS/16-17/1590  BDCS/16-17/1591  BDCS/16-17/1592
2	Raspberry Pi Model 3, with case	IOT Lab (COE)	30 Nos	114,000.00	116 31-10-2017
3	<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)
4	<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	19,48,521.00	Voucher No. 58
5	<b>Higher Configuration Desktop with Graphic Card</b> Intel Core i7 10700 F X 2 Cooler Master Cabinet SMPS 600-watt Cooler Motherboard Gigabyte B560M DS3H AC X 2 RAM 16 GB DDR4 2656 8TB HDD Seagate 500 GB SSD Graphic card 8gb 3050 Gaming RTX	Computer Vision Lab (COE)	2	2,12,457.62	BDCS/5573/21-22
6	<b>FujiFilm-FX-X-100V S-EE Digital Rangefinder Camera</b>	Computer Vision Lab (COE)	1	1,06,245.76	BDCS/5573/21-22
7	<b>BASLER ACE GIGE Camera</b>	Computer Vision Lab (COE)	1	1,40,000.00	BDCS/5573/21-22
8	<b>Operating System:</b> Microsoft Windows 10 Pro	Data Science Lab	24	114250	BDCS/16-17/1590  <b>Dr. Mahesh Bunde</b> B.E., M.E., Ph.D. Director Poonima College of Engineering ISI-0, RICO Institutional Area Sitapura, JAIPUR

	<b>Processor:</b> Intel(R) Core(TM) i5-6400 CPU @ 2.70GHz, 2712 Mhz, Core(s), 4 Logical Processor(s)  <b>RAM:</b> 8.00 GB  <b>HDD:</b> 1 TB				
9	<b>Operating System:</b> Microsoft Windows 10 Pro and Ubuntu  <b>Processor:</b> Intel(R) Core(TM) i3-CPU @ 3.70GHz, 4 Logical Processor(s)  <b>RAM:</b> 4.00 GB  <b>HDD:</b> 500 GB	Cyber Security Lab	24	689700.00	BDCS/16-17/2932
10	<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
11	<b>Anaconda (Python distribution)</b>	Artificial Intelligence Lab & Data Science Lab	-	Open Source	NA
12	<b>Weka</b>	Artificial Intelligence Lab & Data Science Lab	-	Open Source	NA
13	<b>VMware</b>	Cyber Security Lab	-	Open Source	NA
14	<b>IBM SPSS software platform</b>	Artificial Intelligence Lab & Data Science Lab	-	Open Source	NA
15	<b>Snort - Network Intrusion Detection &amp; Prevention System</b>	Cyber Security Lab	-	Open Source	NA
16	<b>Wireshark</b>	Cyber Security Lab	-	Open Source	NA





### AI & Big Data Lab (COE)



### IOT Lab: (COE)



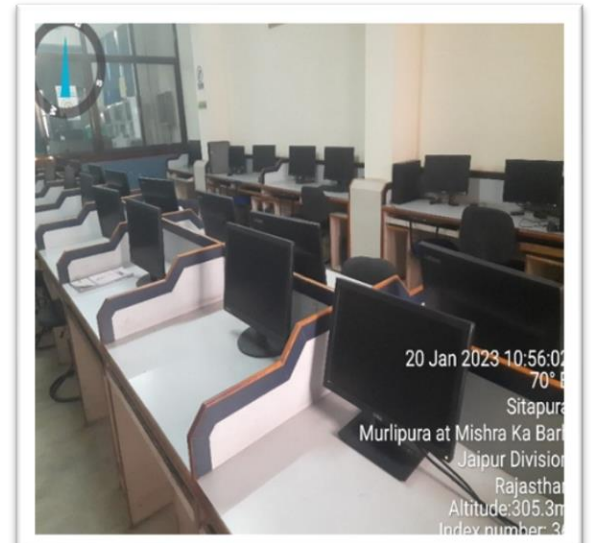
## GPU Server



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



### Digital Rangefinder Camera & DSLR Cameras:



### Data Science Lab





### Cyber Security Lab



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





# POORNIMA

## COLLEGE OF ENGINEERING

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

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

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

Poornima College of Engineering  
ISI-6, RIICO 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](http://www.rtu.ac.in), email : [dean.academic@rtu.ac.in](mailto: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  
ISI-6, RICO Institutional Area  
Sitapura, JAIPUR

**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

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



- 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

- 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

- 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

	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.

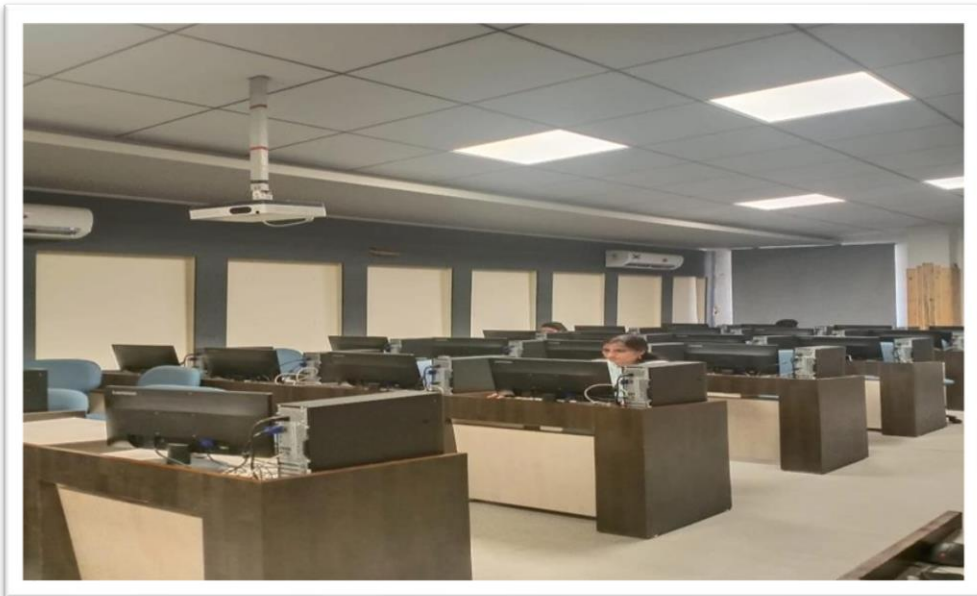
- IEEE IEL Online full subscription
- DELNET
- ASME for Mechanical Engineering
- J-Gate
- Scopus
- Turnitin Plagiarism check software



## INFRASTRUCTURE PICS



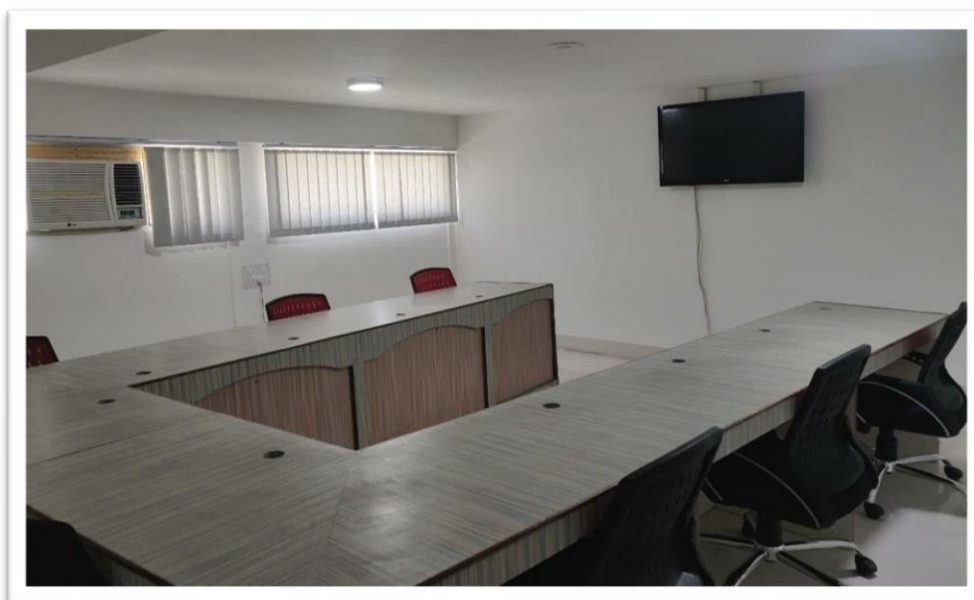
**AI Lab 1**



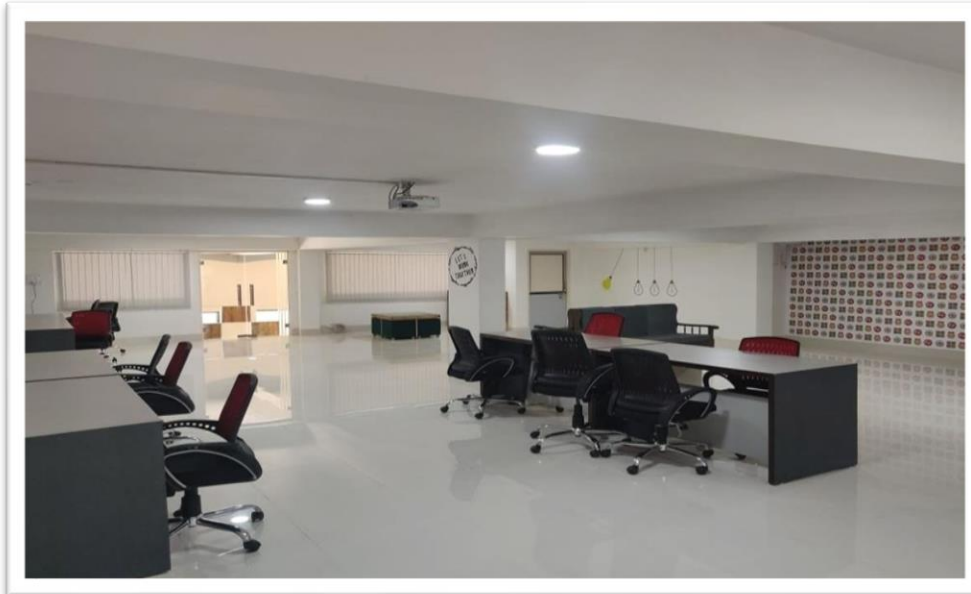
**AI Lab 2**



**Centre First Floor Entry**



**Meeting Room**



**Working Space**



**Reference Section**



### Digital Rangefinder Camera & DSLR Cameras:





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



# POORNIMA

## COLLEGE OF ENGINEERING

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## *Center of Excellence in Advance Wireless Communication*

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

Poornima College of Engineering  
ISI-6, RIICO 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](http://www.rtu.ac.in), email : [dean.academic@rtu.ac.in](mailto:dean.academic@rtu.ac.in)**

**RTU/Acad./F(17)14/2023/ 1034-35**

**Date: 23.05.2023**

Principal/Director  
Poornima College of Engineering  
ISI-6, RIICO Institutional Area, Sitapura  
Jaipur-302022

**Sub:** Recognition of Centre of Excellence in **Advanced Wireless Communication Lab.**

**Ref.:** Your proposal dtd. 23.03.2022.

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 **Advanced Wireless Communication Lab** was considered. On the recommendation of Expert Evaluation Team and subsequent approval of 75<sup>th</sup> Board of Inspection vide agenda no. 75.3.1, University recognise the Centre of Excellence in the area of **Advanced Wireless Communication Lab** at your institute from session 2022-23.

Further, BOI has not approved the COE proposal for Advanced Manufacturing Lab.

C.C.to:  
PS to HVC

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

  
**(Diwakar Joshi)**  
Dy. Registrar, A/A



# POORNIMA

## COLLEGE OF ENGINEERING

### Vision and Mission of COE:

**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.

### Objective and Relevance of the COE

1. To impart knowledge about Advanced Wireless Communication 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 Wireless Communication.
3. To create project based learning environment in and around the institute across the state of Rajasthan.





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### **Detail of the National/International Institutes. Industries involved in the Centre of Excellence**

#### **International Institute:**

- Universiti Teknologi Mara, Malaysia
- RI Instruments and Innovation Pvt. Ltd., Uttarakhand and RINZTECH, New Zealand

#### **National Institute:**

- IIT Indore
- IIT Dharwad
- MNIT, Jaipur
- Siemens Centre of Excellence, NIT, Kurukshetra
- Government Engineering College, Dahod

#### **Industries:**

- Elektrolites Pvt. Ltd., Jaipur
- VVDN Technologies Pvt. Ltd., Manesar
- Research for Resurgence Foundation, India
- SAP
- IBM
- Celebal Technologies
- Latashri 3D Creations, Jaipur
- Latashri 3D Creation (3D Printer), Jaipur



### INFRASTRUCTURAL FACILITIES

#### Major Equipment's accessories exclusive for COE

S. No.	Name of Equipment	Specification	Make	Quantity	Total Cost
1	SENSE- nut	<ul style="list-style-type: none"> <li>• Microcontroller with integrated 802.15.4 transceiver.</li> <li>• Variety of sensors: Environment, Meteorological, Air &amp; water quality etc.</li> <li>• Modular design having Gateways, Radios &amp; sensors devices.</li> </ul>	SENSE-nut ProLab	1	4,72,000/-
	USB Gateway Module	<ul style="list-style-type: none"> <li>• USB to Asynchronous serial data transfer interface.</li> <li>• USB protocol handled by the device (No USB specific programming required).</li> <li>• Data Transfer rate 115200 baud</li> <li>• 128 byte receive buffer and 256 byte transmit buffer</li> </ul>			
	Radio Module:	<ul style="list-style-type: none"> <li>• 32-bit RISC JN 5168 Microcontroller</li> <li>• 1-32MHz clock speed</li> <li>• 256KB flash, 32KB RAM, 4KB EEPROM</li> <li>• 2.4 GHz IEEE 802.15.4 compliant transceiver</li> </ul>			



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		<ul style="list-style-type: none"> <li>• 128-bit AES security processor</li> <li>• Time of Flight engine for ranging</li> <li>• Integrated PCB antenna</li> <li>• Rx current 17mA, Tx current 15mA</li> <li>• 2V to 3.6V battery operation</li> <li>• Controllable transmission power (-32 to +2.5 dBm)</li> </ul>			
	Wi-Fi Gateway Module:	<ul style="list-style-type: none"> <li>• Low-power Wi-Fi networking module</li> <li>• Integrated SPI-serial flash for software</li> <li>• Broadcom BCM43362 single band 2.4GHz IEEE 802.11b/g/n 1x1 Wi-Fi transceiver</li> <li>• Includes support for all Wi-Fi security modes including Open, WEP, WPA, WPA2-PSK</li> <li>• Integrated 1MB Flash memory and 128kB SRAM</li> <li>• Operational Temperature Range: -30°C to +85°C</li> <li>• Wi-Fi Power save : 0.77mA</li> <li>• Active receive : 6.9mA @ 1Mbit/s</li> <li>• Active transmit : 12.5mA @ 1Mbit/s</li> </ul>			



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	TL Sensor Module	<ul style="list-style-type: none"> <li>• Temperature Range -25 C to 80 C with 12 bit resolution,</li> <li>• Light Range 3 to 64k lux with 16 bit resolution, Excellent IR/UV rejection</li> <li>• 1.5uA shutdown current</li> </ul>			
	HTP Sensor Module	<ul style="list-style-type: none"> <li>• The humidity sensor provides digital output with a 14-bit resolution (0.04% RH)</li> <li>• Pressure sensor outputs the barometric pressure in 24-bit resolution</li> <li>• Hardware interrupts in order to update the microcontroller about any critical events</li> </ul>			
	Extender Module	<ul style="list-style-type: none"> <li>• Connect external sensors and devices.</li> <li>• Debug hardware/checking output on DIOs and other ports</li> <li>• Access ADC, SPI, UART, I2C, and PWM generators</li> </ul>			
2	Advanced Fiber Optic Communication Trainer - Model - FOL-A-P	<ul style="list-style-type: none"> <li>• Fiber Optic Transmitter: Two wavelength (660nm and 950nm)</li> <li>• Fiber Optic Receiver : 2 types (PIN Photo Diode, Photo Transistor detector)</li> <li>• On board functional generator</li> <li>N.A. measurement</li> </ul>	Falcon	2	94,400/-
3	Power Meter	A Power Meter is one of the most useful and simple	RY-PM3008	1	35400/-

  
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		instruments to measure electrical power when no deeper analysis of the measured data is required. It measures the voltage (V) and current (A) and derives from these the most important power results.			
4	ENA Vector Analyzer	<p>Analyzer need to measure S-parameters, the right mix of speed and performance gives you an edge. Key sight ENA vector network analyzers provide affordable measurement integrity to help you transform a deeper understanding into a better design. The full contents of the kit include:</p> <ul style="list-style-type: none"> <li>• C6713 DSP Development Board with 512K Flash and 16MB SDRAM</li> <li>• C6713 DSK Code Composer Studio™ IDE including the Fast Simulators and access to Analysis Toolkit on Update Advisor.</li> </ul>	Keysight Technology	1	8,37,800/-
5	Antenna Trainer Kit	The Antenna Training System also comes with Motorized Antenna Unit (Model Amitech 2261A) to automate the recording of the radiation pattern of the antennas. The Motorized Unit consists of a Microcontroller based	Amitech	1	2,14,200/-

  
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		system for Capturing, Displaying and Printing of radiation pattern. The system capture signal at an interval of 1degree rotation using stepper motor and radiation pattern is displayed on PC. The Windows based Software is supplied in CD Rom. The PC Communication is via RS232 port. It used with Amitech.			
6	Radar Trainer Kit	Trainer is useful classroom training equipment provided with different types of accessories for experimentation, and a Windows based software for observation and calculation of different parameters. On-board Test points are provided, which enable students to observe the signals on an Oscilloscope or a PC. The trainer is capable of measuring the Speed of Object, Frequency of Vibrations and RPM of any fan. Students can also study the properties of different types of materials like Metal, Acrylic, Teflon, Bakelite, etc.	NVIS	1	53,404/-
7	Satellite Trainer Kit	<ul style="list-style-type: none"> <li>• Simultaneous Communication of three</li> </ul>	Sciencetech	1	80,106/-



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		<p>different signals at each up-linking frequency</p> <ul style="list-style-type: none"> <li>• 2414-2468 MHz PLL microwave operation</li> </ul>			
8	GPS Trainer Kit	<p>Nvis GPS module MC20GPS is an extension module for Nvis Microcontroller development platforms. The module has been designed for students and practicing engineers to gain invaluable practical experience on the principle and applications of microcontroller &amp; GPS Module. The objective is to have a clear understanding of how GPS module is interfaced and controlled with microcontroller. It has various terminals for connection to external real world applications. Nvis GPS module will provide a basic understanding of the GPS fundamentals, Satellites &amp; Design aspects of GPS receiver by actually connecting to the Satellite by GPS antenna. MC20GPS, GPS module for Embedded Platforms is an ideal platform to enhance education, training, skills &amp; development among our young minds.</p>	Sciencetech	1	40,258/-



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9	CDMA DSSS Trainer Kit	The Wireless mobile communication systems provide access to the capabilities of the global network at any time, irrespective of the location or mobility of the user. The Direct Sequence Spread Spectrum (DS-SS) technique, incorporated into CDMA can accommodate large number of users in one radio channel depending on the voice activity level.	Scientech	1	1,44,602/-
10	Microwave Test Bench	<ul style="list-style-type: none"> <li>• Gunn Power Supply:</li> <li>• Gunn Oscillator:</li> <li>• Isolator:</li> <li>• PIN modulator:</li> <li>• Variable attenuator:</li> <li>• Detector Mount:</li> <li>• SWR meter:</li> </ul>	Scientech / NVIS	8	5,49,326/-
11	Digital Storage Oscilloscope	30Mhz	Keysight	8	1,86,900/-
12	Spectrum Analyzer	9Khz-6.2Ghz	Scientech/ CADDO	2	3,39,675/-
13	FPGA Trainer Kit	VLSI Trainer	Scientech / NVIS	10	1,49,347/-





14	Digital Signal Processing Development	<ul style="list-style-type: none"> <li>• Up to 600 MHz high performance black fin processor</li> <li>• Two 16 bit MAC <ul style="list-style-type: none"> <li>• Two 40 bit ALU</li> <li>• Four 8 bit video ALU</li> <li>• 40 bit shifter</li> </ul> </li> <li>• Advanced debug, trace and performance monitoring</li> <li>• Wide range of operating voltages</li> <li>• Qualified for automotive application</li> <li>• Programmable on chip voltage regulator</li> <li>• Up to 148 k byte of on chip memory</li> <li>• On chip PLL capable of 0.5 to 64 frequency multiplication core timer</li> </ul>	Scienteck	10	3,38,000/-
15	Advance MIC Trainer kit	<ul style="list-style-type: none"> <li>• Frequency Range : 2.2 - 3GHz continuously variable</li> <li>• Modulating Frequency : 100Hz to 5kHz AM square wave, FM triangular wave</li> <li>• Output Level Variation : 10 - 20 dB</li> <li>• Impedance : 50V Min RF level : 5mW</li> </ul>	Scienteck	2	2,53,151/-
16	RF/ Microwave Circuit Board	Cover the 5 parameter measurement up to 5 band (ENA)	Scienteck	1	2,36,000/-



17	Logic Analyzer Kit	32-channel logic analyzer with 256K memory	Scientech	1	58,744/-
18	Fiber Optic Trainer Kit	Fiber-Optic Trainer, Single Channel and Dual Channel	Scientech	9	1,71,179/-
Total Cost					42,54,492/-

### Major Software and IT structure for COE

S. No.	Name of Equipment	Research Application	Total Cost
1	CST MW Software 2020 (20 Users)	CST Studio Suite® is a high-performance 3D EM analysis software package for designing, analyzing and optimizing electromagnetic (EM) components and systems. Electromagnetic field solvers for applications across the EM spectrum are contained within a single user interface in CST Studio Suite.	1,53,400/-
2	Optical Communication Software (2 Users)	Opti-System Ver. 16	6,90,300/-
3.	SENSE- nut interface Software	Wireless Sensors Network	Mention in Above table

### Virtual Resources

#### In collaboration with Celebal Technologies

- The industry-connect which will enable students to increase their literacy technical skill & supervisory skill. Enhancing the personality development aspect of an individual through soft skills, Learning modules of various latest technologies, through the technical curriculum specially designed for Computer, Electronics & Communication Engineering, students by subject matter expert (SMEs) of Celebal Technologies, through Workshops, Guest Lectures, SDP'S etc. Access to learning content from Microsoft & Pluralsight.
- Consultancy support from Celebal Technology on how the quality of infrastructure for



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different technical labs can be increased and brought to the level of industry acceptance.

- Onsite resources for carrying out FDP training activities on Wireless Communication by Microsoft trainers
- Ecosystem level support in Hackathons/ events NKN and/ or 50mbps / higher internet connectivity

### **In collaboration with Elektrolites Pvt. Ltd.**

- Seek mutual advice and support in planning and executing Programs promoting Excellence in respective areas of research and industrial solutions.
- Encourage students and faculties of PCE and Scientific staff of Elektrolites pvt. Ltd to visit the either institute for short duration for getting research inputs and guidance upon recommendation from the research guides and directors from Elektrolites pvt ltd.
- Encourage joint research activities and project for students.
- Industry and institution interaction will give an insight into the latest development of the industries.
- The industrial Training and exposure provided to the students will build confidence and prepare the students to have smooth transition from academic to working career.

### **In collaboration with VVDN Technologies**

- Giving a chance to the faculty (Trainers) to have an interaction with SMEs of VVDN Technologies to enhance their employability by learning latest technologies and giving them actual industry flavour of today.
- VVDN Technology would help the best students from different Branches that have been enrolled in their learning modules with the recruitment aspect on merit basis.
- The subject matter experts can be made available to train the faculty of the college on certain new industry practices.
- Industrial visit would be organized for the students of Poornima College of Engineering.
- Aiming to bridge the academia-industry gap “VVDN Technologies”. It would help a college come up with a Centre of Excellence on varied topics.

### **Library Resources**

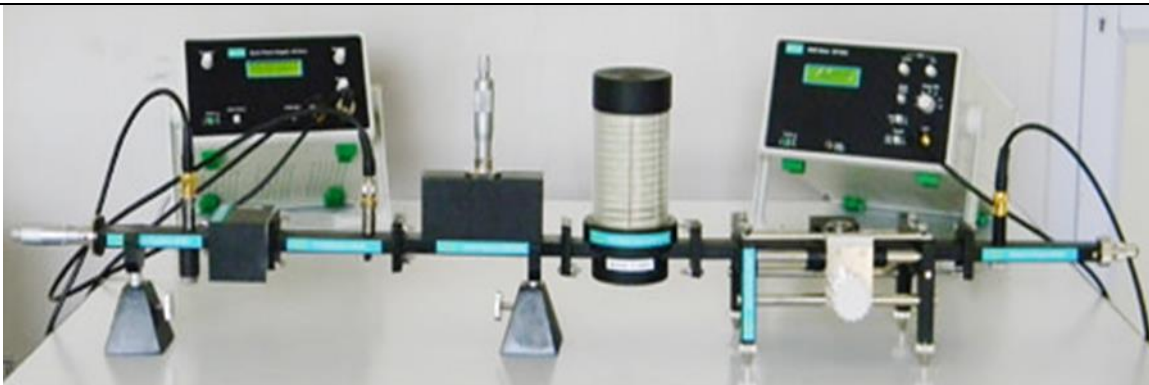
We have subscription to following library resources those are being used by the faculty and students while doing projects and R&D in Advance Wireless Communication

- IEEE IEL Online full subscription



- DELNET
- J-Gate
- SCOPUS
- Turnitin Plagiarism check software

### Glimpses of Infrastructure of Centre of Excellence



Microwave Test Bench



Power Meter



ENA Vector Analyser



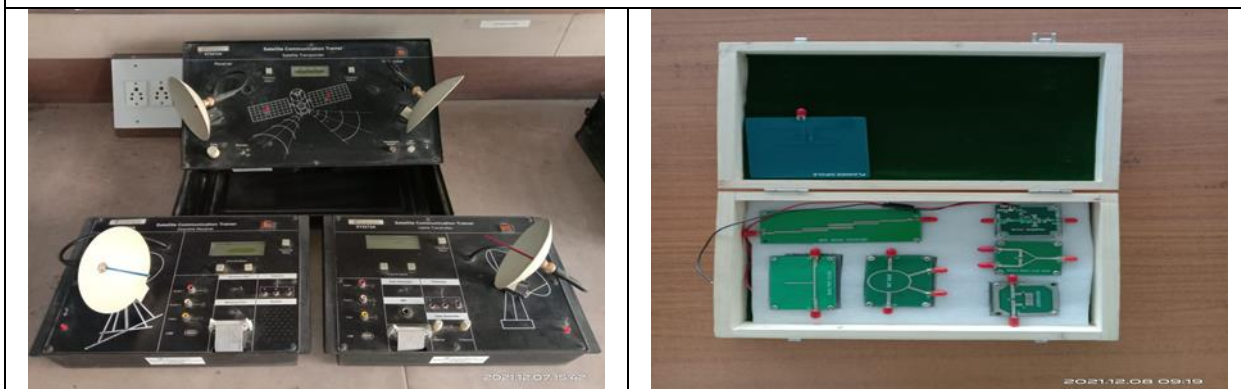


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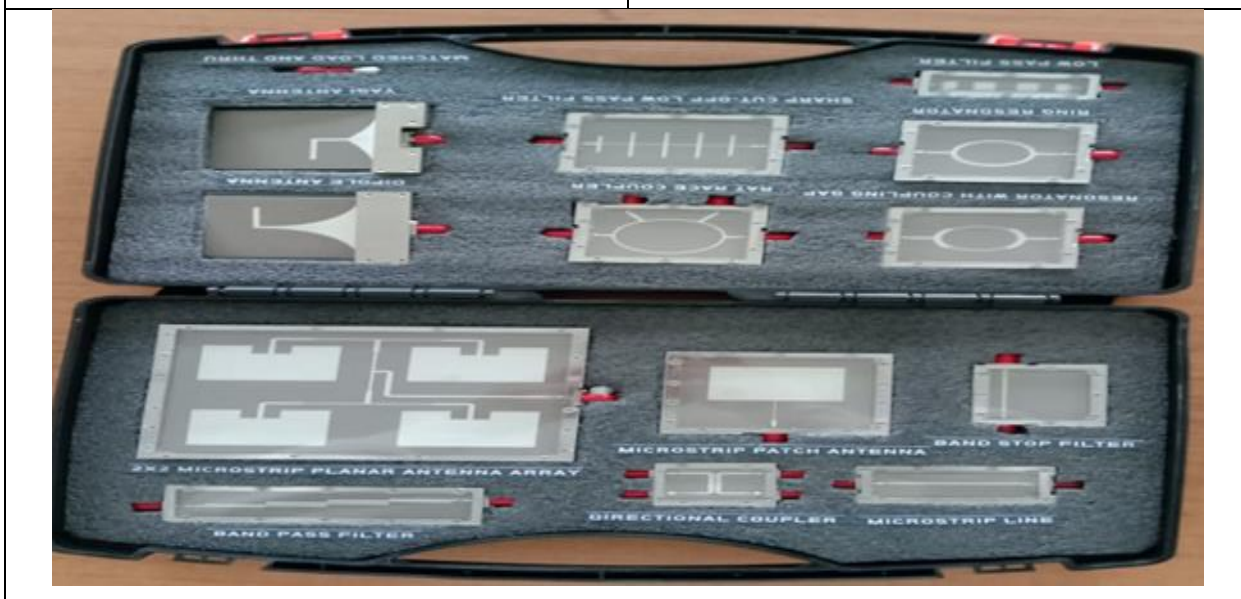


Radar Trainer Kit



Satellite Communication Trainer Kit

Microwave Patch Antenna

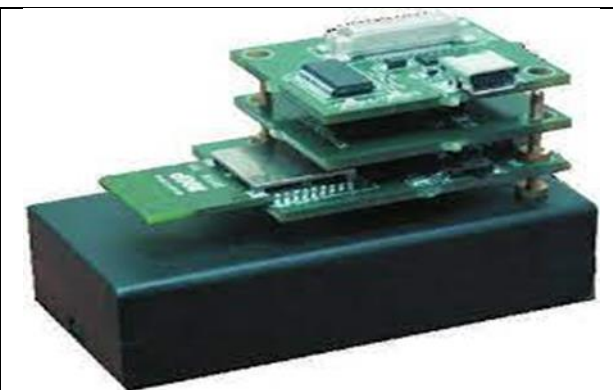




Microwave Patch Antenna Kit Setup



Advanced Optical fiber Trainer Kit



SensNut Module



SensNut Module







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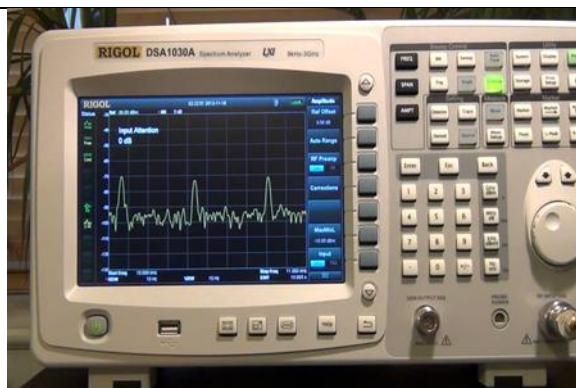
Antenna Trainer Kit



GPS Trainer Kit



Digital Storage Oscilloscope



Rigol Spectrum Analyzer





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Glimps of of Centre of Excellence





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An autonomous institution approved by RTU, AICTE & UGC • NAAC A+ Accredited



## *Center of Excellence in Advanced Manufacturing*

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### Vision and Mission of proposed COE:

**Vision:** To become a forward-thinking and cutting-edge research center dedicated to promoting research in the areas of advanced manufacturing in order to provide better trainings and research solutions to industries and researchers especially in the State of Rajasthan.

**Mission:** To establish cutting-edge research facilities in advanced manufacturing processes and three dimensional printing in order to give practical solutions to meet technological advances.

### Objective and Relevance of the proposed COE

1. To foster ideas, research, and end user product development for both researchers and industries.
2. To build cutting-edge research facilities in the areas of advanced manufacturing in order to resolve industries problems.
3. To encourage international collaboration between Local NGOs, industries, academia, and government bodies.
4. To ensure that Graduate, Postgraduate, and local artisans can participate in research and internship programs, as well as training and entrepreneurship.
5. To encourage women and physical disabled persons to work as a researchers and entrepreneurs in the field of advanced manufacturing and three dimensional printing.

### Centre of Excellence Functions

1. Student projects with beyond syllabus concept – project every semester
2. Faculty members pursuing research projects, sponsored research and other works in advance manufacturing utilizing existing resources.
3. Conducting Workshops, Seminars, FDPs, Trainings for the Students and Faculty members.
4. Collaborative research work with emerging industries.
5. To provide research solutions to the research scholars as well industries.
6. To conduct Skill based training programs for students and industry technical persons.



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7. To provide Summer Internship for in/out side Students and research scholars
8. To provide research facility to the faculties in summer/winter vacations.

### Technical Novelty and Utility

This centre will allow the students, faculty members and researchers to work in advanced manufacturing laboratory and to work with latest cutting edge and to enhance their project/research development.

- Synthesize of advanced polymers based composites.
- Machining of difficult to cut materials using laser cutter.
- Design and fabrication of parts for defence, biomedical, electronic and jewellery industries using 3D printer.
- Characterization and surface quality measurement of manufactured miniaturize parts.
- Joining of dissimilar metals.
- Development of in-house hybrid machines.

### Detail of the National/International Institutes. Industries involved in the Centre of Excellence

#### International Institute:

- Centre for Advanced Manufacturing at Adama Science & Technology University  
Ethiopia

#### National Institute:

- MNIT, Jaipur
- CIPET Jaipur
- MSME Jaipur
- NIT Kurukshetra

#### Industries:

- Jaipur Foot, Jaipur
- Tarun International Ltd. Jaipur

  
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- BOSCH, Jaipur
- HUMBOT Pvt. LTD. Jaipur
- TechnoHub, Jaipur
- Latashri 3D Creation (3D Printer), Jaipur

## INFRASTRUCTURAL FACILITIES

### Major Equipment exclusive for COE

Name	Quantity	Specifications	
3D Printer	2	Make	L3D Creation
Electronic Balance Machine	1	Make	Wesner
Digital Microscope	1	Make	ISM- Pro
Lathe	3	Make	MACPOWER Industries Rajkot (Gujrat)
		Model No.	
		Type	Engine lathe
		Bed Length	3.5 Feet
		Power Supply	AC 3-Phase /415 V/ 50Hz/1.9 AMP
		Power	1.0 Horse Power (H.P.)
		Speed	1440 rpm
		Distance between live center and dead center	24 inch
		Diameter of chuck	8 inch
		Diameter of job, which can be held in the chuck	6 inch





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Lathe	1	Height of the center above the top of the bed	6 inch
		Range of spindle speed	150-780 RPM
		Make	MACPOWER Industries Rajkot (Gujrat)
		Model No.	
		Type	Engine Lathe
		Bed Length	4 Feet
		Power Supply	AC 3-Phase /415 V/ 50Hz/3.5 AMP
		Power	1.5 Horse Power (H. P.)
		Speed	1440 rpm
		Distance between live center and dead center	30 inch
		Diameter of chuck	8 inch
		Diameter of job, which can be held in the chuck	6 inch
		Height of the center above the top of the bed	6 inch
Lathe	1	Range of spindle speeds	150-780 RPM
		Make	Sadguru (SELECT) Industries Rajkot (Gujrat)
		Type	Engine Lathe
		Power Supply	AC 3-Phase /415 V/

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			50Hz/2.2 AMP
		Motor	Three (03) phase
		Motor Power	1 Horse Power (H. P.)
		Speed	1440 RPM
		Distance between live center and dead center	42 inch
		Diameter of chuck	6 inch
		Diameter of job, which can be held in the chuck	4 inch
		Height of the center above the top of the bed	7 inch
		Range of spindle speeds	150- 780 RPM
Lathe	1	Make	MACPOWER Industries Rajkot (Gujrat)
		Model No	
		Type	Gear Lathe
		Bed Length	4 Feet
		Power Supply	AC 3-Phase /415 V/ 50Hz/3.5 AMP
		Power	2.0 Horse Power (H. P.)
		Speed	1440 rpm
		Distance between live center and dead center	24 inch



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		Diameter of chuck	8 inch
		Diameter of job, which can be held in the chuck	6 inch
		Height of the center above the top of the bed	6 inch
		Range of spindle speeds	80 – 900 RPM
Capstan Lathe (CLATHE)	1	Make	HERBERT
		Model No.	2D
		Collet Capacity	20 mm
		Max. distance between spindle nose to turret face	11 inch
Sharper	1	Make	ANOOP Rajkot (Gujrat)
		Model No.	A-1
		Power Supply	AC 3-Phase /415 V/ 50Hz
		Speed	1440rpm
		Motor Power	1.5 Horse Power (H. P.)
		Length, breadth and depth of the bed.	39 inch X 9 inch X 2 inch
		Maximum axial travel of the Ram	18 inch
		Maximum length of the stroke	18 inch



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		Vertical travel of tool post slide	4 inch
Milling	1	Make	Gajjar Machine Tool (Gujrat)
		Model No.	GUA-1, CODE NO.-532
		Power Supply	AC 3-Phase /415 V/ 50Hz
		Speed	2700 rpm
		Working Surface	1050 x 250 mm
		Number of T-Slots	3
		Width of T-Slots	15 mm
		Pitch of T-Slots	62 mm
		Number of Spindle Speed	6
		Range of spindle speed	50, 85, 110, 240, 350, 525 RPM
		Floor Space	600 mm x 925 mm
		Height	1500 mm
		Coolant Tank Capacity	20 Litre
Power Hack Saw	1	Make	MMT
		Power Supply	AC 3-Phase /415 V/ 50Hz/1.9 AMP
		Motor Power	1H.P.
		Speed	1440 rpm





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Power Hack Saw		Max. Size of materials that can be cut	170 mm.
		Stroke length	6 inch
		No. of speed strokes	1
Arc welding (AW)	1	Make	HEEREX
		Power Supply	AC 3-Phase / 50Hz
		Current	35 to 300 AMP
		Voltage	380-440 V
		Welding Current	20-400 AMP
		Welding voltage	65 - 75 V DC (Open circuit voltage)
		Maximum Rated	17 KVA
		Dimension (mm)	550X280X545mm
		Weight	33 Kgs
Spot Welding	1	Make	Vijay Electricals
		Model	28913
		Frequency	50 - 60 Hz
		Input Power	25 kVA
		Electrodes Length	200 mm
TIG Welding (TW)	1	Make	ELECTRA KOKO TAWA
		Current	200AMP.
		TIG Welding Current	4 - 400 Amps
Submerge Arc Welding	1	Make	Electro Koko Tawa
		Power Supply	AC 3-Phase / 415 V/ 50Hz



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		Welding Current	150 to 1200 Amps
		Open Circuit Voltage	72 Volts (DC)
		Welding Voltage	20 to 46 Volts DC
Sensitive Drilling	1	Make	MUNISH
		Motor Power	1HP
		Speed	1440rpm
		Power Supply	AC 3-Phase / 6AMP/220 V/50Hz
Radial Drilling	1	Make	NATIONAL ENGINEERING
		Model No.	
		Power Supply	AC 3-Phase / 415 V/1.9 AMP/50Hz
		Motor Power	1 Horse Power (H. P.)
		Speed	1440 rpm
Bench Gridding (BG)	1	Make	PERFECT
		Power Supply	AC 3-Phase / 440 V/0.8 AMP/50Hz
		Wheel Diameter	200 mm
		Motor Power	0.5 Horse Power (H. P.)
		Speed	2880 rpm
ELECTRIC FURNANCE HORIZONTAL (EFH)	1	Working Temperature up to 950°	



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Electric Furnace Vertical (EFV)	1	Working Temperature up to 950°	
Rapid Moisture Tester (RMT)	1	Make	Versatile Equipment's Pvt. Ltd.
		Model No.	V/M 060211
		The instrument specifies moisture on wet/weight basis and easily convertible to dry weight basis.	
Sand Rammer	1	Make	Versatile Equipment's Pvt. Ltd.
		Model No.	V/R 060302
		The Sand Rammer can be used to prepare a standard sand specimen diameter	50mm x Height 50mm
Sieve Shaker	1	Make	Versatile Equipment's Pvt. Ltd.
		Model No.	VGH 060302
Clay Washer	1	Make	Versatile Equipment's Pvt. Ltd.
		Model No.	VCW 060206
Permeability Meter (PM)	1	Make	Versatile Equipment's Pvt. Ltd.
		Model No.	V/P 060303
Universal Testing Machine for Foundry Shop (UTMF)	1	Make	Engineering Models and Equipment's



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## COLLEGE OF ENGINEERING

		Model No.	Adi Artech O/P 3.13, 500Kg
Core and Mould Hardness Tester (C&M HT)	1	Make	Engineering Models and Equipment's
PROFILE PROJECTOR (PP)	1	Make	METZER-M
MONOCHROMATIC AND OPTICAL FLATE (M&OF)	1	Make	PRISMS INDIA
COMBINATION SET (300 MM) (CS)		Make	MITUTOYO
		Model No.	180-907
FILLER GAUGE (FG)		Make	MITUTOYO
		Model No.	184-304
MICROMETER OUTSIDE (0.25mm) (M0-1)	1	Make	MITUTOYO
		Model No.	103-101
MICROMETER OUTSIDE RANGE (25-50) (M0-2)	1	Make	MITUTOYO
		Model No.	103-138
SMALL BORE GAUGE WITH DIAL RANGE (8-10 MM) (SBG-1)	1	Make	CHINA
SMALL BORE GAUGE WITH DIAL (10-18 MM) (SBG-2)		Make	CHINA
SMALL BORE GAUGE WITH DIAL (18-36) (SBG-3)	1	Make	CHINA
TELESCOPIC GAUGE (TG)	1	Make	INSIZE





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DIAL GAUGE (DG)	1	Make	ASAHI
MAGNETIC STAND (MS)	1	Make	MITUTOYO
THERMOMETER	1	Make	WORK ZONE
		Model No.	MT-14A
		Range	50 -1500 °C
DIAL VERNIER CALIPER RANGE-150 MM (VC-1)	1	Make	MITUTOYO
		Model No.	505-671
		Size	150 mm
		Accuracy/ Least Count	0.02 mm
		Display Type	Dial
DIGITAL VERNIER CALIPER RANGE-300 MM (VC-2)	1	Make	MITUTOYO
		Model No.	500-193
		Size	300
		Accuracy/ Least Count	0.02 mm
		Display Type	Digital
ORDINARY VERNIER CALIPER RANGE-150 MM (VC-3)	1	Make	MITUTOYO
		Size	150 mm
		Accuracy/ Least Count	0.02 mm
		Display Type	Analog
ORDINARY VERNIER CALIPER RANGE-300 MM (VC-4)	1	Make	MITUTOYO
VERNIER HEIGHT GAUGE (0-300 MM) (VHG-1)	1	Make	MITUTOYO
		Model No.	514-103
		Size	300 mm
		Accuracy/ Least Count	0.02 mm



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		Display Type	ANALOG
DEPTH GAUGE MICROMETER (DGM)	1	Make	MITUTOYO
		Model No.	129-111
		Base size	16 X 64 mm
		Range	10-100 mm
		Rod size	4 mm
UNIVERSAL BEVEL PROTECTOR (UBP)	1	Make	CHINA
		Model No.	
		Blade Length	150 X 300 mm
PLANE SNAP GAUGE (PSG)	1	Make	Indian
SINE BAR (SB)	1	Make	OMEGA
		Model No.	604
		Size	200 mm
		Model No.	
INSIDE MICROMETER (IM)		Make	MITUTOYO
		Model No.	141-205
		Size	20 mm
GEAR TOOTH VERNIER	1	Make	ALEN
WIRE GAUGE AND SHEET GAUGE (W&S G)	1	Make	KRISTEEL
		Model No.	1505
ANGLE PLATE (AP)	1	Make	INDIAN
OXYGEN CYLINDER (OC)	1	Make	INDIAN



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## COLLEGE OF ENGINEERING

ACETYLENE CYLINDER (AC)	1	Make	INDIAN
DRILL TOOL DYNOMOMETER (DTD)	1	Make	INDIAN
MILLING TOOL DYNOMOMETER (MTD)	1	Make	INDIAN

DIGITAL MICROSCOPE  
CODE ISM-PM200SA



Images of Digital Microscope, 3D Printer, Balance machine and surface roughness tester



### IT infrastructure for COE

S. No.	PC Brand	Modal No.	PC Serial No.	Processor	RAM	Hard Disk	MAC
1	Lenovo	Lenovo	PC0B3BCC	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-9E-86
2	Lenovo	Lenovo	PC0C1ZQ9	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-57-0A-59
3	Lenovo	Lenovo	PC0B3BFW	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-9E-D5
4	Lenovo	Lenovo	PC0B3BB5	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-A0-3E
5	Lenovo	Lenovo	PC0B3BBC	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-9B-03
6	Lenovo	Lenovo	PC0B3AFD	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-51-B6-64
7	Lenovo	Lenovo	PC07DHWV	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	B8-AE-ED-D8-E2-F6
8	Lenovo	Lenovo	PC0B3BH9	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-9E-D0
9	Lenovo	Lenovo	PC0B3B6J	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-52-9B-01
10	Lenovo	Lenovo	PC0BUHXZ	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D-30-55-5D-B4





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## COLLEGE OF ENGINEERING

11	Lenovo	Lenovo	PC07DHZL	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	B8-AE- ED-D4- 04-A6
12	Lenovo	Lenovo	PC0B3BEQ	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D- 30-52- 9B-43
13	Lenovo	Lenovo	PG00QMZF	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D- 30-59- 6D-99
14	Lenovo	Lenovo	PG00QN2H	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D6- 09-1B
15	Lenovo	Lenovo	PC0BUHXT	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D- 30-55- 5D-A7
16	Lenovo	Lenovo	PG00QMZO	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D6- 0F-5F
17	Lenovo	Lenovo	PC0BUHXW	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D- 30-55- 5A-FB
18	Lenovo	Lenovo	PG00QNKK	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D4- FC-3D
19	Lenovo	Lenovo	PC07DJ1Y	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	B8-AE- ED-D4- 04-C7
20	Lenovo	Lenovo	PG00QNKC	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D4- FC-25
21	Lenovo	Lenovo	PG00QNJY	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D4- FC-2B



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## COLLEGE OF ENGINEERING

22	Lenovo	Lenovo	PC0B3BFV	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	F4-4D- 30-52- 9D-3F
23	Lenovo	Lenovo	PG00QMZC	<u>i3-4170</u> <u>cpu@3.70 GHz</u>	4GB	500GB	00-01- 6C-D6- 0A-0C
24	Dell	Dell	OPTIPLEX360	Intel core 2Ducpu E7400@2.80GHz	2 GB		00-23- AE-86- EE-15

Items	Functions	Cost
PROJECTOR , PANASONIC	Presentation, Training	26250
PRINTER, 2900 CANNON	Documentation	9145
SCANNER, CANNON	Documentation	2375

### List of Consumables

S. No.	Item	Quantity	Total Cost
1	MS Steel rod	100	6558
2	Copper Rod	10	9500
3	Brass Rod	10	6200
4	Aluminum Rod	10	4500
5	Cast Nylon Rod	10	2750
6	Aluminum Sheet	5	2500
7	Emery Paper	50	1500
8	Single point cutting tool	5	1250



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9	Milling Cutter	5	1250
10	Consumable and non-consumable electrodes	5 packets	2000
11	3D printer material (PLA)	5 spool	6000
12	Drilling bit	10	1000



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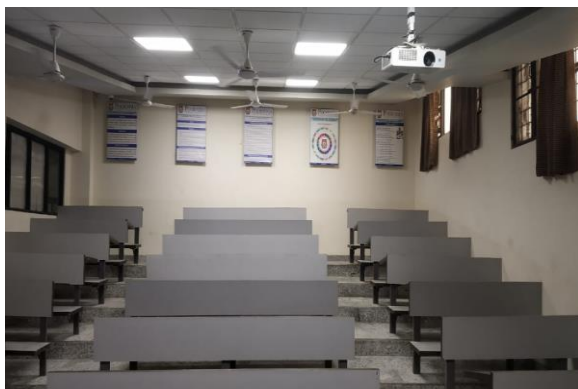
### Glimpses of Infrastructure of Centre of Excellence



Production Lab



Aero-modeling Lab



Lecture Theatre



3D Printer



Computer Lab



TIG Welding Setup





# POORNIMA

## COLLEGE OF ENGINEERING

An autonomous institution approved by RTU, AICTE & UGC • NAAC A+ Accredited



## *Center of Excellence in Geoinformatics*

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

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



### ABOUT THE CoE

Poornima College of Engineering started a Center of Excellence (CoE) for GEOINFORMATICS that focuses on research, development, education, and practical applications related to geoinformatics. Geoinformatics is an interdisciplinary field that combines geographic information systems (GIS), remote sensing, geospatial analysis, and other technologies to acquire, manage, analyze, and visualize geographic and spatial data.

An effort called the Center of Excellence for Geoinformatics aims to advance research, education, and support services for geospatial applications. Its core initiatives are focused on employing a collaborative and community-driven approach to raise knowledge, understanding, appreciation, and implementation of geospatial solutions.

The research, outreach, and consulting efforts of the Center are concentrated on many elements of Geoinformation technology and systems. The center's research initiatives take the shape of funded projects by domestic and international funding organizations and community development initiatives. The center for the promotion of multidisciplinary research for sustainable development is affiliated with faculty members from all of the institute's departments, including Electronics & Telecommunication Engineering, Computer Engineering, and Information Technology.

### Vision and Mission of proposed COE:

**Vision:** To be a Global Centre of Excellence for Geoinformatics in Academic, Research, Government support and Industrial Training.

**Mission:** To be a leading Centre of Excellence in Geoinformatics Research of international repute for the investigation of multidisciplinary areas.

To enhance the knowledge based on research, education and information transfer by using the advanced approach.

To organize trainings/workshop/social activity for capacity building in Geoinformatics.

To provide academic support to undergraduate/post-graduate/ PhD program in the discipline of Geoinformatics.



### Objective and Relevance of the proposed COE

1. ICT and geospatial knowledge co-creation and sharing based on Geoinformatics principles.
2. To enhance quality of life and create proactive local communities, integrate and employ geospatial solutions and open-source principles.
3. Offer deployment and consulting services for geospatial solutions based on BIG data, AI and Machine Learning.
4. Strengthening capacity via awareness campaigns, instruction, workshops, teacher training sessions, consultations, displays, and outreach initiatives.
5. Use cutting-edge geospatial software to meet various needs for monitoring and evaluation (M&E).

### Centre of Excellence Aims

**Research:** Conduct cutting-edge research in the field of geoinformatics, exploring new methodologies, technologies, and applications to address various spatial challenges and problems.

**Education:** Offer training programs, workshops, and courses to educate professionals, students, and the public about geoinformatics principles, tools, and techniques.

**Application Development:** Develop practical applications, software tools, and solutions that leverage geoinformatics to address real-world issues in sectors like urban planning, environmental monitoring, agriculture, disaster management, and more.

**Data Management:** Focus on the collection, management, and analysis of geospatial data, including satellite imagery, aerial photographs, geographic databases, and other spatial datasets.

**Collaboration:** Foster collaborations with academia, government agencies, industries, and other stakeholders to advance geoinformatics research and applications.

**Policy and Decision Support:** Provide expertise to policymakers and decision-makers by utilizing geoinformatics data and analyses to make informed choices related to land use, resource



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management, infrastructure planning, and more.

**Innovation:** Drive innovation by pushing the boundaries of geoinformatics technology and its integration with emerging fields such as artificial intelligence, machine learning, and big data analytics.

This center will play a vital role in advancing the understanding and application of geoinformatics in various domains. It will contribute to scientific advancements, support sustainable development, and enhance decision-making processes by providing valuable geospatial insights.

## FUTURE COMMITMENT

- Patent
- Publications in reputed journals (SCI/WOS & SCOPUS Indexed)
- Collaborative research work with International and National Organization
- External Funded Projects
- Presenting research outcome in National and International conferences
- Conducting workshop/seminar/ training program. Capacity Building

## INFRASTRUCTURAL FACILITIES

### IT infrastructure for COE

S. No.	PC Brand	Modal No.	PC Serial No.	Processor	RAM	Hard Disk	MAC
1	Lenovo	Lenovo Think Centre E63z	P900JQP9	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-20





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2	Lenovo	Lenovo Think Centre E63z	P900JQPB	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6D-DB
3	Lenovo	Lenovo Think Centre E63z	P900JQSX	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6F-8A
4	Lenovo	Lenovo Think Centre E63z	P900JQPY	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-14
5	Lenovo	Lenovo Think Centre E63z	P900JQQW	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-75-16
6	Lenovo	Lenovo Think Centre E63z	P900JQSW	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6F-B4
7	Lenovo	Lenovo Think Centre E63z	P900JQQ8	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-4F
8	Lenovo	Lenovo Think Centre E63z	P900JQQ1	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-78-06
9	Lenovo	Lenovo Think Centre E63z	P900JQNY	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6E-5E
10	Lenovo	Lenovo Think Centre E63z	P900JQNX	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-F4
11	Lenovo	Lenovo Think Centre E63z	P900JQSN	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-2F
12	Lenovo	Lenovo Think Centre E63z	P900JQPL	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-6F



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## COLLEGE OF ENGINEERING

13	Lenovo	Lenovo Think Centre E63z	P900JQSA	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-52
14	Lenovo	Lenovo Think Centre E63z	P900JQPX	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6E-47
15	Lenovo	Lenovo Think Centre E63z	P900JQT6	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7A-08
16	Lenovo	Lenovo Think Centre E63z	P900JQT9	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-77-DB
17	Lenovo	Lenovo Think Centre E63z	P900JQPH	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6E-97
18	Lenovo	Lenovo Think Centre E63z	P900JQR1	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6D-E0
19	Lenovo	Lenovo Think Centre E63z	P900JQPF	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-17
20	Lenovo	Lenovo Think Centre E63z	P900JQTY	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-0A
21	Lenovo	Lenovo Think Centre E63z	P900JQSV	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-79-AC
22	Lenovo	Lenovo Think Centre E63z	P900JQQL	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7L-79-AC
23	Lenovo	Lenovo Think Centre E63z	P900JQQD	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6F-8D



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24	Lenovo	Lenovo Think Centre E63z	P900JQQB	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7C-C4
25	Lenovo	Lenovo Think Centre E63z	P900JQQ2	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-79-FA
26	Lenovo	Lenovo Think Centre E63z	P900JQSG	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6F-84
27	Lenovo	Lenovo Think Centre E63z	P900JQRV	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-0D
28	Lenovo	Lenovo Think Centre E63z	P900JQRB	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7C-6B
29	Lenovo	Lenovo Think Centre E63z	P900JQPW	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6D-FF
30	Lenovo	Lenovo Think Centre E63z	P900JQN W	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-D6
31	Lenovo	Lenovo Think Centre E63z	P900JQTL	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-79-B0
32	Lenovo	Lenovo Think Centre E63z	P900JQPR	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-6E-4E
33	Lenovo	Lenovo Think Centre E63z	P900JQQQ	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-71-01
34	Lenovo	Lenovo Think Centre E63z	P900JQP4	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-E5



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## COLLEGE OF ENGINEERING

35	Lenovo	Lenovo Think Centre E63z	P900JQRA	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-70-F5
36	Lenovo	Lenovo Think Centre E63z	P900JQPK	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	00-25-AB-7D-7C-93
37	Lenovo	Lenovo Think Centre A10	L90MA04	Intel ® Core ™ i3-2120 CPU @ 3.30GHz	4GB	260 GB	AC-FD-CE-84-B7-FA
38	Lenovo	Lenovo Think Centre E63z	P900JQPJ	Intel ® Core ™ i3-4005U CPU @ 1.70GHz	4GB	500 GB	F8-0F-41-2E-51-CC

Items	Functions
PROJECTOR, PANASONIC	Presentation, Training
Computer Cabinet (DELL OPTIPLEX 360, Intel ® Core ™ 2 Duo CPU E7400 @2.80 GHz, RAM 1GB, HDD 160GB, MAC 00-23-AE-87-12-B6) for Projector	Documentation

## LIST OF SOFTWARE

S. No.	Item	Quantity	Total Cost
1	QGIS 3.12	20	0 (Open Source)
2	SAGA 8	10	0 (Open Source)
3	SketchUp Desktop 2024.0	20	0 (Open Source)

## EXISTING FACILITY/SUPPORT FROM LAB

The Instruments/ equipment and software from the following labs will be used-

- Computer Aided Design Lab
- Concrete & Material Testing Lab

  
**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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## COLLEGE OF ENGINEERING

- Geo-Mechanics & Environmental Engineering lab
- Artificial Intelligence lab
- Existing facilities in the Poornima College of Engineering
- Permanent Equipment and Software
- Desktop and CPU with advanced configuration
- Software available: QGIS, AUTO-CAD
- Handheld GPS
- Water quality testing equipment

## TEAM MEMBERS

Multi-disciplinary research team are involved from various department at Poornima College of Engineering.

- Dr. Pran N. Dadhich is the Coordinator of the Centre along with the relevant experts from the following Department of PCE as Members.
- Department of Civil Engineering
- Department of Computer Science and Engineering
- Poornima Innovation Incubation Cell
- Research and Development Cell
- Intellectual Property Right Cell

  
**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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## COLLEGE OF ENGINEERING

- CoE – Artificial Intelligence and Big Data
- CoE – Automobile and e-Vehicle
- CoE – Advanced Wireless Communication

### Glimpses of Infrastructure of Centre of Excellence

