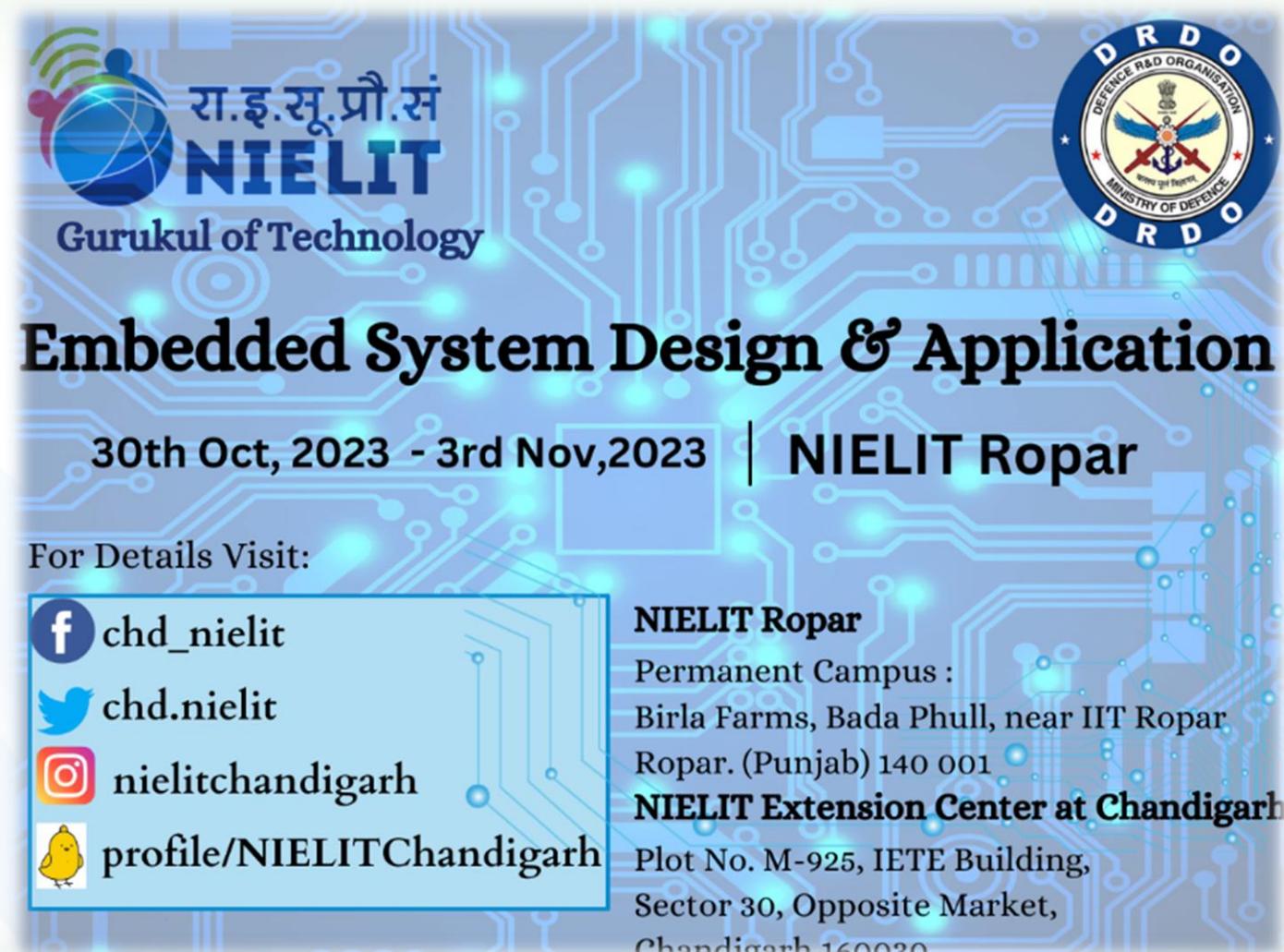


# Welcome to **NIELIT Ropar**

Permanent campus: Bada Phull, Ropar, Punjab

[www.nielit.gov.in/chandigarh](http://www.nielit.gov.in/chandigarh)



The banner features the NIELIT logo (globe with three dots) and text 'रा.इ.सू.प्रौ.सं' and 'NIELIT' with 'Gurukul of Technology'. It also includes the DRDO logo and the text 'DEFENCE R&D ORGANISATION' and 'MINISTRY OF DEFENCE'. The background is a blue circuit board pattern.

**Embedded System Design & Application**

30th Oct, 2023 - 3rd Nov, 2023 | **NIELIT Ropar**

For Details Visit:

-  chd\_nielit
-  chd.nielit
-  nielitchandigarh
-  profile/NIELITChandigarh

**NIELIT Ropar**  
Permanent Campus :  
Birla Farms, Bada Phull, near IIT Ropar  
Ropar. (Punjab) 140 001  
**NIELIT Extension Center at Chandigarh**  
Plot No. M-925, IETE Building,  
Sector 30, Opposite Market,  
Chandigarh 160030

## About NIELIT

- NIELIT – National Institute of Electronics and Information Technology
  - is a Capacity Building arm of the Ministry of Electronics and Information Technology (MeitY), Government of India
  - offers courses in IECT in the Formal as well as the Non-Formal Sectors of Education
  - is playing a key role in Digital India, Make in India & Skill India initiatives undertaken by Govt. of India
- Pan India presence – 47 NIELIT Centres
- Network of over 1100+ private accredited Centres and
- About 8500+ Facilitation Centres actively engaged in Digital Literacy.
- NIELIT – National Examination body
  - vast experience in conducting Online examinations and third party assessments.

► **about NIELIT Chandigarh**

erstwhile



1978

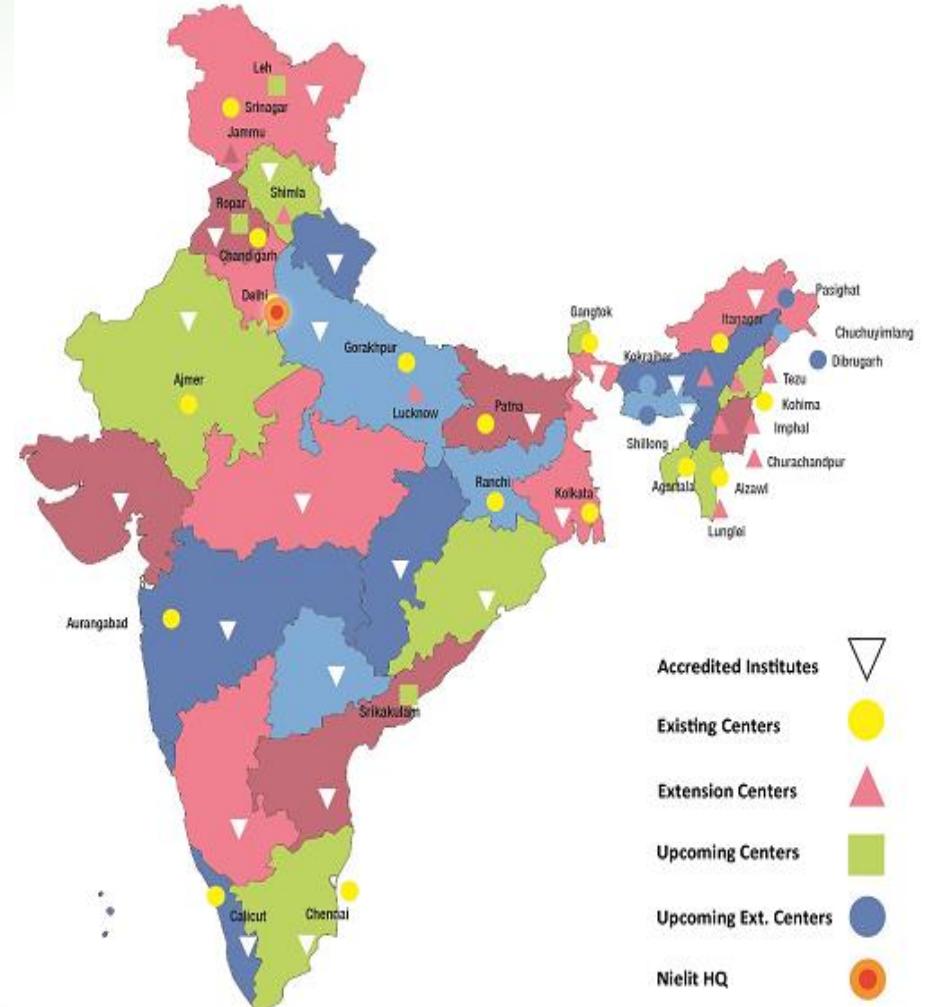
**Regional Computer  
Center (RCC)**



डी ओई सी सी  
2003  
**DOEACC**



**2012 onwards**



## NIELIT Chandigarh

**Education & Training**

**Projects**

**Software Development**

**NCPUL**

**Data Processing**

**Examination Processing**

**Facility Management**

**Online Services**

## **Training & Projects**

- ESDM Scheme of Govt. of India
- Corporate trainings to various Govt. departments
- Training under DGE&T scheme
- Training employment exchange officers National Career Service Portal
- Training to Panchayati Raj Functionaries
- Training for more than 500 CSC VLEs
- Data Digitization of NPR
- Utility Billing projects for various states
- Software Development and total IT solutions for various Govt. departments
- Examination and Certification
- Facility Management

## NIELIT Chandigarh – futuristic technologically ahead

Artificial Intelligence

Internet of Things (IoT)

Big Data Analytics

Augmented & Virtual Reality

Blockchain

Cloud Computing

Cyber Security

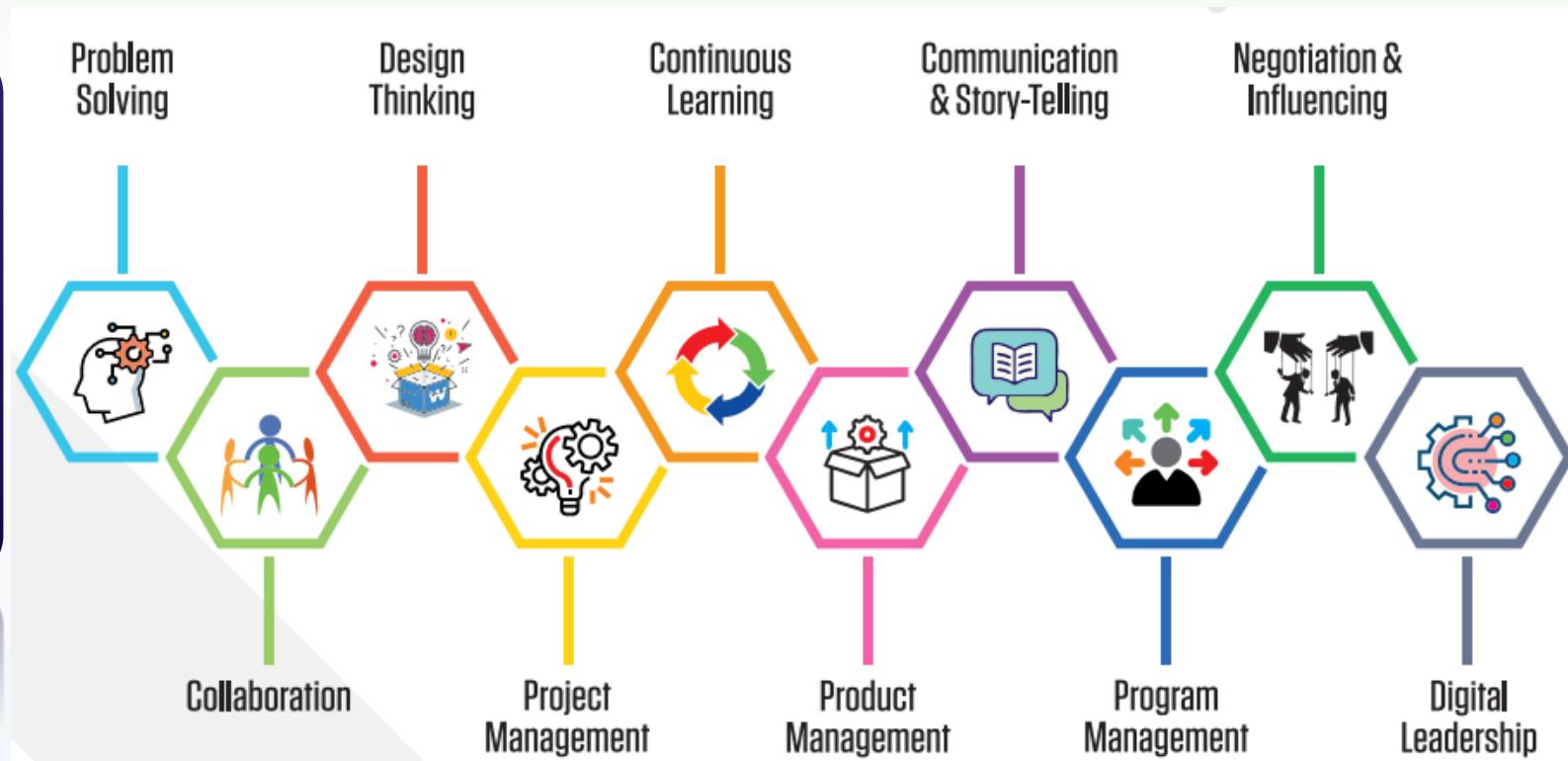
Robotic Process Automation



FutureSkills Technology



## Making Professionally skilled society



## MoU

- NIELIT & I.K. Gujral Punjab Technical University (IKG-PTU) have entered into an MoU to provide Training in the field of IECT and all related areas by NIELIT to students of IKG-PTU affiliated colleges / institutes under following categories:
  - Semester /Industrial Training Programmes of 5-6 months duration
  - Summer Training Programmes of 6-8 weeks duration
- Joint Certification Training Programmes with IIT Ropar under the following categories:
  - Summer (6-8 weeks)/Industrial (6 Months)
  - Finishing School Courses
  - Train the Trainers Workshops
- Punjabi university patiala

## Corporate Training

### Govt. Department/organization

- ✓ Rail Coach Factory(RCF), Kapurthala
- ✓ Punjab Police IT Wing
- ✓ DiTech – Haryana Govt.
- ✓ CEPTAM – DRDO
- ✓ Labour Department, Haryana
- ✓ Health Department, Punjab
- ✓ Punjab Mandi Board
- ✓ Haryana State Pollution Control Board
- ✓ Economical and Statistical Organization, Haryana
- ✓ PGI, Chandigarh

### Govt. Dept./University

- ✓ DCRUST, Murthal, Haryana State Govt. University
- ✓ GNDU Amritsar, Punjab State Govt. University
- ✓ Uttarakhand Technical University, Dehradun
- ✓ SKUAST, Jammu and Kashmir State Govt. University
- ✓ State Aids Control Society, Chandigarh
- ✓ Zila Welfare Office, Chandigarh
- ✓ State Bank of India



► Centre of Excellence



## Industry TieUps - CISCO Networking Academy

- NIELIT Chandigarh is part of **CISCO Networking Academy** Programme since 2005
- Cisco Networking Academy has changed the lives of 10.9 million students in 180 countries by providing education, technical training, and career mentorship, since last 20 years.
- Cisco Networking Academy is a global education programme that teaches students how to **design, build, troubleshoot, and secure computer networks** for increased access to career and economic opportunities in communities around the world.
- More than 6 million people have joined the Networking Academy and become a force for change in the digital economy since 1997.



## CISCO Networking Academy

- Courses under **CISCO Networking Academy** includes:
  - Networking
  - Internet of Things
  - Operating Systems
  - Programming
  - Cyber Security



**Cisco Networking Academy**

**Certificate of Course Completion**

**Introduction to IoT**

The student has successfully achieved student level credential for completing Introduction to IoT course administered by the undersigned instructor. The student was able to proficiently:

- Explain how IoT are businesses and go
- Explain the importance of society.

**manjot singh**  
Student  
**NIELIT Chandigarh**  
Academy Name  
**India**  
Location  
**Dr. Sarwan Singh**  
Instructor

**PYTHON INSTITUTE**  
OpenEDG Python Institute Authorized Academy Program

**OPEN EDG**

**Statement of Achievement**

**PCAP: Programming Essentials in Python**

The graduate of the **PCAP: Programming Essentials in Python** course, provided by **Cisco Networking Academy®** in collaboration with **OpenEDG Python Institute**:

- knows the universal concepts of computer programming, including variables, data structures, algorithms, control flow, functions, and exceptions;
- can proficiently use the developer tools, the runtime environment, and the syntax and semantics of the Python language;
- can use fundamental programming techniques, best practices, customs, and vocabulary, including the most common standard library functions in Python 3;
- can write Python programs using standard language infrastructure, and knows the means by which to resolve typical implementation problems;
- knows how to work with modules and packages, process text and binary files, and use generators, iterators, and closures;
- understands the fundamentals of object-oriented programming (OOP) and the way they are adopted in Python.

**Faisal Yaseen Shah**  
Student

**Maciek Wichař**  
VP & CEO, OpenEDG

**27 Mar 2022**  
Date

**Dr. Sarwan Singh**  
NIELIT Chandigarh

[www.netacad.com](http://www.netacad.com) | [www.pythoninstitute.org](http://www.pythoninstitute.org)

CEPTAM – DRDO August 2019



▶ CEPTAM-DRDO Skill Development Training – Nov 2021



▶ CEPTAM DRDO – Embedded System Design @Aug22



▶ CEPTAM DRDO –AI and Machine Learning @Sep22



## ► Faculty – Electronics Division

### Dr. Sarwan Singh

- ✓ PhD
- ✓ C Level, B Level (MCA)
- ✓ MSc, B.Sc. (Electronics)
- ✓ 23 years of experience in training, software development, networking, product design
- ✓ Currently working in areas of Cloud computing, Internet of Things(IoT), Machine learning, AI, Blockchain



### Prakash Pratik

- ✓ B. Tech(ECE) NIT Patna
- ✓ M.S. (IIT Mandi)
- ✓ 7 years of experience in training, research, R & D product designing



### Akhil Arora

- ✓ B. Tech (ECE), M. Tech (ECE)
- ✓ 13 years of experience in training

### Jaspreet Singh

- ✓ B. Tech (ECE)
- ✓ 8 years of experience in training, maintenance, hardware and networking



## Course in Electronics Division

<b>Short term</b>	
<b>S No</b>	<b>Course</b>
1.	Programming with Arduino
2.	Certificate Course on Embedded Systems Design – ARM/8051 Microcontroller
3.	Certificate Course in Internet of Things
4.	Raspberry Pi with Python
5.	Internet of Things (IoT) using Augmented Reality
6.	Certificate Course on MATLAB
7.	PC Assembly and Maintenance

► Long term

S No	Course
1	Electronic Product Design (EPD)
2	Internet of Things
3	Advance Diploma in Embedded System Design

## Corporate Training

### Govt. Department/organization

- ✓ Rail Coach Factory(RCF), Kapurthala
- ✓ Punjab Police IT Wing
- ✓ DiTech – Haryana
- ✓ CEPTAM – DRDO
- ✓ Labour Department, Haryana
- ✓ Health Department, Punjab
- ✓ Punjab Mandi Board
- ✓ Haryana State Pollution Control Board
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- ✓ SKUAST, Jammu and Kashmir State Govt. University
- ✓ State Aids Control Society, Chandigarh
- ✓ Zila Welfare Office, Chandigarh
- ✓ State Bank of India



## Training Schedule

### Embedded System Design & Application

30th October, 2023 - 3rd November, 2023

Day (Date)	Session 1 (9.30 AM - 10.30 AM)	Session 2 (10.45 AM - 11.50 AM)	Session 3 (12.00 AM - 1 PM)		Session 4 (2 PM - 3 PM)	Session 5 (3 PM - 4 PM)	Session 6 (4.15 PM - 5.15 PM)
Day 1 (30th Oct, 23)	Inaugural Session	Embedded System Design - Introduction	Basics of Electronics	Lunch Break	Embedded System Design using Arduino Platform	Programming and circuit Simulation using Proteus	Hands-On
Day 2 (31st Oct, 23)	Embedded C Programming	Hands-On	Intefacing LED and Button		Hands-On	Interfacing LCD and Keypad	Hands-On
Day 3 (1st Nov, 23)	Communication Protocol- I2C, SPI	Hands-On	Using I2C and SPI protocol		Hands-On	Interfacing Bluetooth devices	Hands-On
Day 4 (2nd Nov, 23)	NodeMCU- Introduction, applications, configuration	Hands-On	Building IoT applications using NodeMCU		Hands-On	Basics of Networking	Hands-On
Day 5 (3rd Nov, 23)	Using NodeMCU as Web Server	Hands-On	Introduction to Real Time Operating System (RTOS)		RTOS Programming using Arduino	Hands-On	Valedictory Session

LAB/Classroom:	213
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Tea Break :	10.30am - 10.45 am 4pm - 4.15pm
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Ropar campus ... walkthrough



## Main Building



## ► Guest House



► Girls hostel



► Boys hostel



► Next to IIT Ropar



► Next to IIT Ropar



► Next to IIT Ropar

