# J.B. INSTITUTE OF ENGINEERING & TECHNOLOGY

# (UGC AUTONOMOUS)

# **Department of Electronics and Communication Engineering**

FACULTY DEVELOPMENT PROGRAMME/STC REPORT

# Five days "Faculty Development Programme (Short Term Course) for Teaching ECE Lab Subjects using free Simulators"

Department of ECE, J. B. Institute of Engineering and Technology in collaboration with **NITTTR, Chandigarh conducted a 5 day Faculty Development Program** (Short Term Course) for faculty and Ph.D/M.Tech scholars from 3<sup>rd</sup> March – 7<sup>th</sup> March 2025 on the Topic "Teaching ECE Lab Subjects using free Simulators" (ICT-115).

JB Institute of Engineering and Technology was selected as Remote Centre to conduct the STC.

Venue: Placement Seminar Hall, JBIET

**Registration link:** <u>https://fdp.nitttrchd.ac.in/backingup/partiregister.php</u>

**Step 1**: Login to <u>https://fdp.nitttrchd.ac.in/backingup/</u>

**Step 2** Apply for the STC: Choose Department: **Electronics and Communication Engineering** and mode (**Online**).

Step 3: Choose Course Teaching ECE Lab Subjects using free Simulators (ICT-115) and apply

Step 4: Select occupation as Faculty/Lecturer/Instructor/Technical
Staff and select the venue as registered Remote Centre. Then select
remote center as: J.B Institute of Engineering and Technology,
Hyderabad

**Step 5:** Upload your college ID card and pay the required fee of Rs. 118/-only.

# **Program Coordinator:**

Dr. Himanshu Sharma @7799978345

# **Convener:**

Dr. Towheed Sultana

HOD, ECE

#### APPLICATION FOR NODAL CENTRE TO NITTTR, CHANDIGARH TO CONDUCT STC AS NODAL CENTRE



#### Ref No. JBIET/STC NITTTR/1/2025

Date: 04.02.2025

To STC Coordinator(s) Teaching ECE Lab subjects using free Simulators NITTTR Chandigarh Subject: Letter of interest for conducting STC as a remote centre – Regd.

#### Sir/Madam,

It is submitted that

- J.B. Institute of Engineering and Technology is interested to act as remote centre for STC on <u>Teaching ECE Lab subjects using free Simulators</u> during 03 – 07 March 2025. A minimum of 30 faculty participants shall be sponsored to attend this STC. All faculty members will register through the STC portal of NITTTR by paying the applicable course fee of Rs. 118/-.
- Dr. Himanshu Sharma, Associate Professor, ECE Dept. will act as coordinator for local coordination of this STC. (Honorarium of Rs. 2500/- to the Local Coordinator shall be paid by NITTTR).
- Mr. B Bhaskara Charyulu, Sr. Lab Asst., ECE Dept. will act as Lab/support staff member for technical and other help. (Honorarium of Rs. 1500/- to supporting staff shall be paid by NITTTR).
- 4. One Seminar room/Lab with an audio/video facility, LCD projector, and Computers with internet/Wi-Fi facility shall be made available for participants to attend sessions, and all the registered participants will attend the STC sessions from the same.
- 5. If any participant of any nearby institution opts to attend the STC at our remote centre, then he/she will be informed that he/she is required to be present physically in the same common room and his/her sponsorship letter to attend the STC at remote centre duly signed by his/her head of institution needs to be submitted.
- All the required documents duly signed by the head of the institution, like sponsored candidates list, attendance list, honorarium forms etc., shall be submitted immediately after the completion of the STC.
- 7. The institute is ready to provide full support to make this STC a success.

(il liax Dr. P. C. Krishnamadhary

Principal PRINCIPAL J.B. INSTITUTE OF

ENGINEERING & TECHNOLOG Bhasker Nagar, Yenkapally (V), Moinabad (M)

Head Office : 6-3-248/1/1A, 4th Floor, Bhaskar Plaza, Road No.1, Banjara Hills Dibly the badd 900754.<sup>G</sup> Ph : 040-23301523, 23391979, Fax : 040-23304036

#### **APPROVAL FOR NODAL CENTRE**



Himanshu Sharma <himanshu.zte@gmail.com>

# Expression of Interest to be the Remote Centre for online FDP on "Teaching ECE Lab subjects using free Simulators" to be held from 03-07 March 2025

Dr. Balwinder S. Dhaliwal <br/>
salwindersdhaliwal@nittrchd.ac.in><br/>
To: Himanshu Sharma <himanshu.zte@gmail.com>

Cc: hod ece <hodece@jbiet.edu.in>, Dr Garima Saini NITTTR <garima@nitttrchd.ac.in>

Tue, Feb 4, 2025 at 3:16 PM

Dear Dr Himanshu, Thanks for your email. Your institution has been added as a remote centre. Kindly start registering your faculty. Kindly select the venue as your institution while registering.

Best Wishes and Regards !!

#### Dr. Balwinder S. Dhaliwal

Associate Professor, ECE Deptt. National Institute of Technical Teachers Training and Research (NITTTR) Sector-26, Chandigarh -160019, INDIA Phone: (O) +91-172-2759796, (M) +91-98148-34209 WoS ResearcherID: AAP-8604-2020 Google Scholar Profile Orcid ID Scopus Profile

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#### SAMPLE REGISTRATION PROOFS FOR STC

Sl. no.	Course litle	Year	OPlan No.	Start Date	End Date	Venue	Coordinating Dept.	Appl.ID	AICTE Approved	Teqip	Appl. date	Duration	Occupation	Registration & Certification Fee Rs. Inclusive of 18% GST	Fee status
1	Teaching ECE Lab subjects using free Simulators	2024- 2025	10000	03/03/2025	07/03/2025	J B Institute of Engineering and Technology, Hyderabad, Telangana	Electronics and Communication Engineering	ICT- 11525199834	YES	no	21/02/25	One Week	faculty	118	paid
SL no.	Course	oI	Plan S		Venue C	rt Term Courses fo Coordinating Dept.	pl.ID AICTE Approved	ID Card/Spons Teqip Appl. date	Duration		R	egistration	pending & Certificat sive of 18%		Pay Course Fee

1.) Without uploading your Institute ID Card/Sponsorship letter you will not be able to pay the Registration Fee. Click here to upload

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Apply for STCs STC Applied		ONAL INSTITUTE OF TECHNICAL S TRAINING AND RESEARCH, SECTOR 26, CHANDIGARH-160019
<u>Upload your</u> Institute ID	Pa	tyment Type: STC Course fee
<u>Card/Sponsorship</u> letter	ID	ICT-11525200107
<u>Pay Course Fee</u>	Candidate Name	VADYARAM RAMYA
<u>Research study</u> <u>survey form</u>	Institute Details	BHASKAR ENGINEERING COLLEGE,MOINABAD,TELANGANA
<u>Download</u> <u>Certificate</u>	Institute under TEQIP	no
<u>Download Course</u> <u>Material</u>	Course Details	Teaching ECE Lab subjects using free Simulators from 03/03/2025 to 07/03/2025
<u>Change password</u>	Email ID	v.reethu29@gmail.com
Write	Total Fee	Rs. 118.00
<u>Query/issues</u>	Fee Status	success
		Print



**Title:** One Week Short-Term Course (STC) on "Teaching ECE Lab Subjects using Free Simulators"

**Organized by:** Electronics and Communication Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh

Date: 03/03/2025 - 07/03/2025

NODAL CENTRE: J.B. Institute of Engineering & Technology, Hyderabad

O. PLAN No. ECE-8 and ICT-115

#### **Program Organizers:**

- Dr. Balwinder Singh Dhaliwal Associate Professor, Electronics & Comm. Engg.
   Ph.D. (Electronics and Comm Engg.), M.Tech.(Electronics and Comm Engg.), 0172-2759796; balwindersdhaliwal@nitttrchd.ac.inDr. Balwinder S. Dhaliwal, NITTTR Chandigarh
- Dr. Garima Saini
   Assistant Professor, Electronics & Comm. Engg.
   Ph.D.(Engineering), M.Tech.(Electronics & Communication), B.Tech.(Electronics & Communication)
   0172-2759665; garima@nitttrchd.ac.in

# **Expert Speakers:**

- Dr. Balwinder S. Dhaliwal, NITTTR Chandigarh
- Dr. Garima Saini, NITTTR Chandigarh
- Dr. Gaurav Kumar, Director, Magma Research and Consultancy Services, Ambala
- Dr. Jagriti Saini, Founder, Eternal RESTEM, HP
- Mr. Jatin Sharma, CSIO Chandigarh

#### PROFILES OF EXPERTS FOR STC

#### Profile of Dr. Balwinder S. Dhaliwal, NITTTR Chandigarh

Dr. Balwinder S. Dhaliwal is an Associate Professor in the Electronics and Communication Engineering Department at the National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh. He brings over 24 years of teaching experience, having served both at NITTTR Chandigarh and Guru Nanak Dev Engineering College (GNDEC), Ludhiana.

Dr. Dhaliwal has been actively involved in research on wearable and flexible antennas. He has shared his insights on this topic in various forums, including a detailed overview available online.

Dr. Dhaliwal's extensive experience and contributions have significantly advanced the field of electronics and communication engineering, particularly in antenna design and digital signal processing.

## Profile of Dr. Garima Saini, NITTTR Chandigarh

Dr. Garima Saini is an Assistant Professor (Senior Scale) in the Electronics and Communication Engineering Department at the National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh. She has been serving in this role since 2006.

Dr. Saini's extensive experience and contributions significantly enhance the academic and research environment at NITTTR Chandigarh, particularly in the fields of mobile communications and antenna design.

## Profile of Dr. Gaurav Kumar, Magma Research and Consultancy Services, Ambala

Dr. Gaurav Kumar is the Founder and Director of Magma Research and Consultancy Services, established in 2011 in Ambala, Haryana, India. He holds multiple advanced degrees, including MCA, M.Phil. in Computer Science, M.Tech. in Information Technology, Ph.D. in Computer Science, and LL.B. With over 20 years of experience spanning teaching, industry, and research, Dr. Kumar has contributed numerous articles and research papers to international magazines, journals, newspapers, and conferences. He possesses international certifications in Data Science, Python, Blockchain, Machine Learning, Deep Learning, Cyber Security, Digital Forensic Tools, Software Testing, and Quantum Computing from organizations such as IBM, Google, TCS, Accenture, and IIT. As a resource person, he conducts practical hands-on sessions on recent technologies in workshops, faculty development programs, short-term courses, webinars, and technical events across various states in India.

## Profile of Dr. Jagriti Saini, Founder, Eternal RESTEM, HP

Dr. Jagriti Saini is the Founder and Owner of Eternal RESTEM, a startup dedicated to fostering student growth and welfare across multiple levels. She holds a Ph.D. in Electronics and Communication Engineering and formerly served as a Senior Research Fellow under the INSPIRE program of the Department of Science and Technology at NITTTR, Chandigarh. Her research interests encompass Artificial Intelligence, Internet of Things (IoT), Data Science, Machine Learning, and Environmental Health. Dr. Saini has contributed extensively to the field, with her publications being cited over 900 times.

#### Profile of Mr. Jatin Sharma, CSIO Chandigarh

Mr. Jatin Sharma serves as a Technical Officer at the CSIR-Central Scientific Instruments Organisation (CSIO) in Chandigarh, India. With extensive experience in leading projects from conceptual design to completion, he has been instrumental in advancing various scientific initiatives. Mr. Sharma is an active member of the Institution of Engineers of India (IEI), Kolkata, and has established a professional network of over 200 connections on LinkedIn

#### Introduction

The Faculty Development Program (FDP) aimed to enhance the technical teaching skills of faculty members in the Electronics and Communication Engineering domain. The program focused on utilizing free simulators for teaching various ECE lab subjects, enabling faculty members to incorporate modern simulation tools in their pedagogy. The FDP spanned five days and covered a range of topics relevant to digital electronics, signal processing, microprocessors, microcontrollers, and IoT applications.

#### **Objectives of the FDP**

- To familiarize faculty members with free simulation tools for teaching ECE lab subjects.
- To enhance technical proficiency in using virtual labs, Tinkercad, Scilab/XCOS, and cloud-based simulation tools.

- To provide hands-on experience through assignments and practice sessions.
- To introduce tools for machine learning, data mining, and PCB design.

#### Program Schedule

Date	Session - 1 (10:00 AM -	Session - 2 (12:00 PM	Session - 3 (2:30 PM -
	11:30 AM)	- 1:30 PM)	4:00 PM)
03/03/2025	Inauguration and Course	Virtual Lab Simulator	Digital Electronics Lab
	Introduction (GS/BSD)	(GS)	Simulator (BSD)
04/03/2025	Communication Lab Simulator (GS)	Arduino-based System Design Using Tinkercad (BSD)	Assignment/Practice Session (GS/BSD)
	U U	Orange Tool for Machine Learning and Data Mining (JRS)	Assignment/Practice Session (BSD/GS)
06/03/2025	Cloud and Open Source Simulation for IoT and Circuit Design (GK)	Free Tools for PCB Design (GK)	Assignment/Practice Session (GS/BSD)
07/03/2025	8085 Microprocessor	8051 Microcontroller	Feedback/Valediction
	Simulator (JTS)	Simulator (JTS)	(BSD/GS)

#### **Session Details**

- Inauguration and Course Introduction (GS/BSD): Provided an overview of the FDP, objectives, and expected outcomes.
- **Virtual Lab Simulator (GS):** Dr. Garima Saini demonstrated virtual lab environments for ECE experiments and their integration into academic curricula.
- **Digital Electronics Lab Simulator (BSD):** Dr. Balwinder S. Dhaliwal conducted a hands-on session on simulating digital circuits and logic gate functionalities.
- **Communication Lab Simulator (GS):** Dr. Garima Saini explored various simulation tools for understanding analog and digital communication principles.
- Arduino-based System Design Using Tinkercad (BSD): Dr. Balwinder S. Dhaliwal led a practical session on using Tinkercad to design and simulate Arduino-based projects.

- Scilab/XCOS for Signal Processing and Digital Circuits (JRS): Dr. Jagriti Saini introduced Scilab and XCOS for digital signal processing and circuit design.
- Orange Tool for Machine Learning and Data Mining (JRS): Dr. Jagriti Saini provided an overview of machine learning and data mining applications using Orange, including practical exercises.
- **Cloud and Open Source Simulation for IoT and Circuit Design (GK):** Dr. Gaurav Kumar discussed cloud-based tools for IoT applications and circuit simulation.
- Free Tools for PCB Design (GK): Dr. Gaurav Kumar conducted training on designing printed circuit boards using open-source software.
- **8085 Microprocessor Simulator (JTS):** Mr. Jatin Sharma led a hands-on session on 8085 microprocessor architecture and programming simulations.
- **8051 Microcontroller Simulator (JTS):** Mr. Jatin Sharma provided training on programming and simulating 8051 microcontroller-based applications.
- Assignment and Practice Sessions (BSD/GS): Provided participants with opportunities to implement and test their understanding through hands-on assignments.
- Feedback and Valediction (BSD/GS): Reflection on learning outcomes, participant feedback, and closing remarks.

#### **Program Highlights**

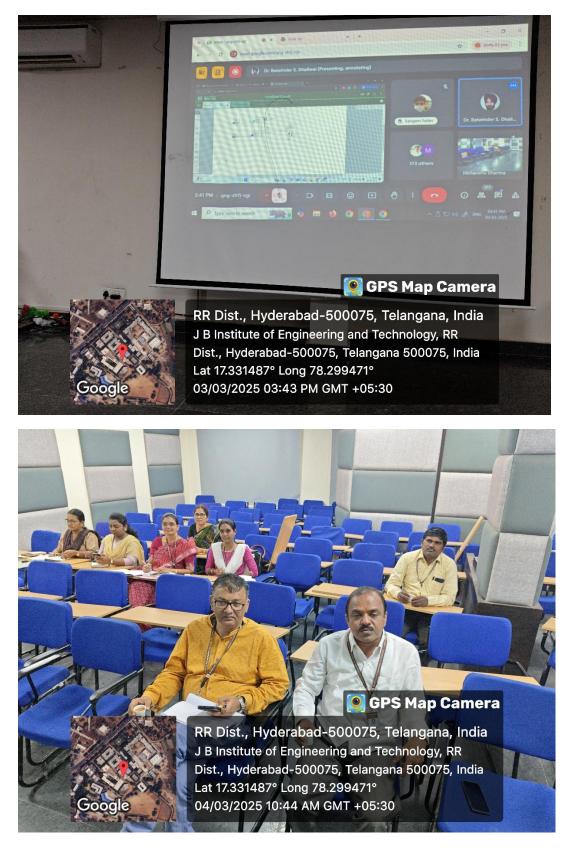
- Hands-on sessions on simulation tools for ECE subjects.
- Interactive practice sessions for better understanding.
- Exposure to modern tools used in academic and industrial applications.
- Engaging discussions and knowledge-sharing among participants and experts.

#### **Conclusion & Feedback**

The FDP successfully provided faculty members with practical insights into free simulation tools, enriching their ability to teach ECE lab subjects effectively. The program was well-received by participants. Coordinator of the Nodal Centre Dr. Himanshu Sharma provided the positive feedback about the program and thanks note.

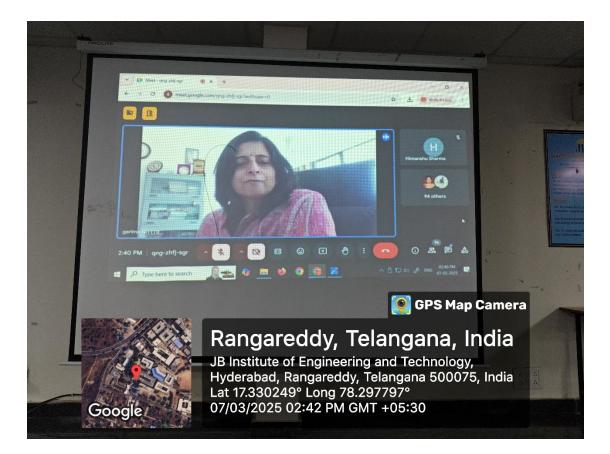
Participants appreciated the hands-on training and expressed interest in attending similar programs in the future. The valedictory session conducted by the organisers from NITTTR, Chandigarh concluded with a vote of thanks to all speakers, organizers, and participants for their contributions to the program's success.

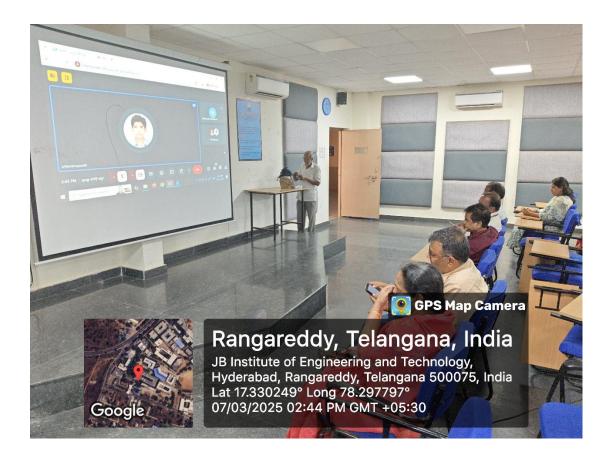
#### PHOTOGRAPHS OF THE FDP















#### ATTENDANCE OF FDP/STC

#### Attendance Sheet for the remote Centre STC Participants

Name of the Course: - Teaching ECE Lab subjects using free Simulators O Plan No.: - ICT-115 Dates: - 03/03/2025 to 07/03/2025 Venue: - J B Institute of Engineering and Technology, Hyderabad, Telangana

S. No.	Participant Name	Designation	Institute Name			Signatures		
140.			5. 14	Day 1 Date: 3/3/2025	Day 2 Date: 4/3/2025	Day 3 Date: 5/3/2025	Day 4 Date: 6/3/2025	Day 4 Date: 7/3/2025
1	AKULA JYOTHI	ASSISTANT PROFESSOR	J B Institute of Engineering and Technology	Trocer	Inour	Frocey	Frocen	Froug
2	AMIT GUPTA	ASSOCIATE PROFESSOR	J B Institute of Engineering and Technology	A	A	A -	A	A
3	ARIGELA NAGESWARI	ASSISTANT PROFESSOR	Joginpally B.R. Engineering College	A:04 3/8/25	(A Aut	Albert	Autor	Ante
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PRINCIPAL Signature J.B. INSTITUTE OF Head of the institution INEERING & TECHNOLOGY INEERING & TECHNOLOGY Baska Nagay Yenkagaly (V), Nanabad (H) R. R. Dist., Hyderabad 500 075, TG

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16	KANCHI SAI KARTHIK	M.Tech STUDENT	J B Institute of Engineering and Technology	ABSENT	ABSENT	ABSENT	ABSENT	ABSEN
17	KAVALI BABITHA	ASSISTANT PROFESSOR	J B Institute of Engineering and Technology	And	Coul	AN	CHI	R
18	KIRAN DULIP PAKMODE	ASSISTANT PROFESSOR	J B Institute of Engineering and Technology	Darmade	Jacmede	Harmel	Barnells	Barme
19	L SANTHOSH KUMAR	ASSISTANT PROFESSOR	Bhaskar Engineering College	Ale .		Es.		R

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23	NIRISHA YADAV	M.Tech STUDENT	J B Institute of Engineering and Technology	ABSENT	ABSENT	ABSENT	ABSENT	ABSEN
24	PRASANTA KUMAR PRADHAN	ASSOCIATE PROFESSOR	J B Institute of Engineering and Technology	Brains	froons.	Boon A	Janar	Formally -
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28	SHILPA RANI TERUPALLY	M.Tech STUDENT	J B Institute of Engineering and Technology	ABSENT	ABSENT	ABSENT	ABSENT	ABSEN
29	SOUJANYA	ASSISTANT PROFESSOR	J B Institute of Engineering and Technology	(A)	(F)	P	A	Q
30	THAMMALI RAVI	M.Tech STUDENT	J B Institute of Engineering and Technology	ABSENT	ABSENT	ABSENT	ABSENT	ABSEN
31	VADYARAM RAMYA	ASSISTANT PROFESSOR	Bhaskar Engineering College	Thomas	Rommes	V Roum Ja	Ramya	VRamo

Signature Local Coordinator

Signature Head of the institution NEERING & TECHNOLOG Biokas Nago, Yorkspairy (V), Monabad (M) R, R. Dist., Hyderabad-500 075, TG