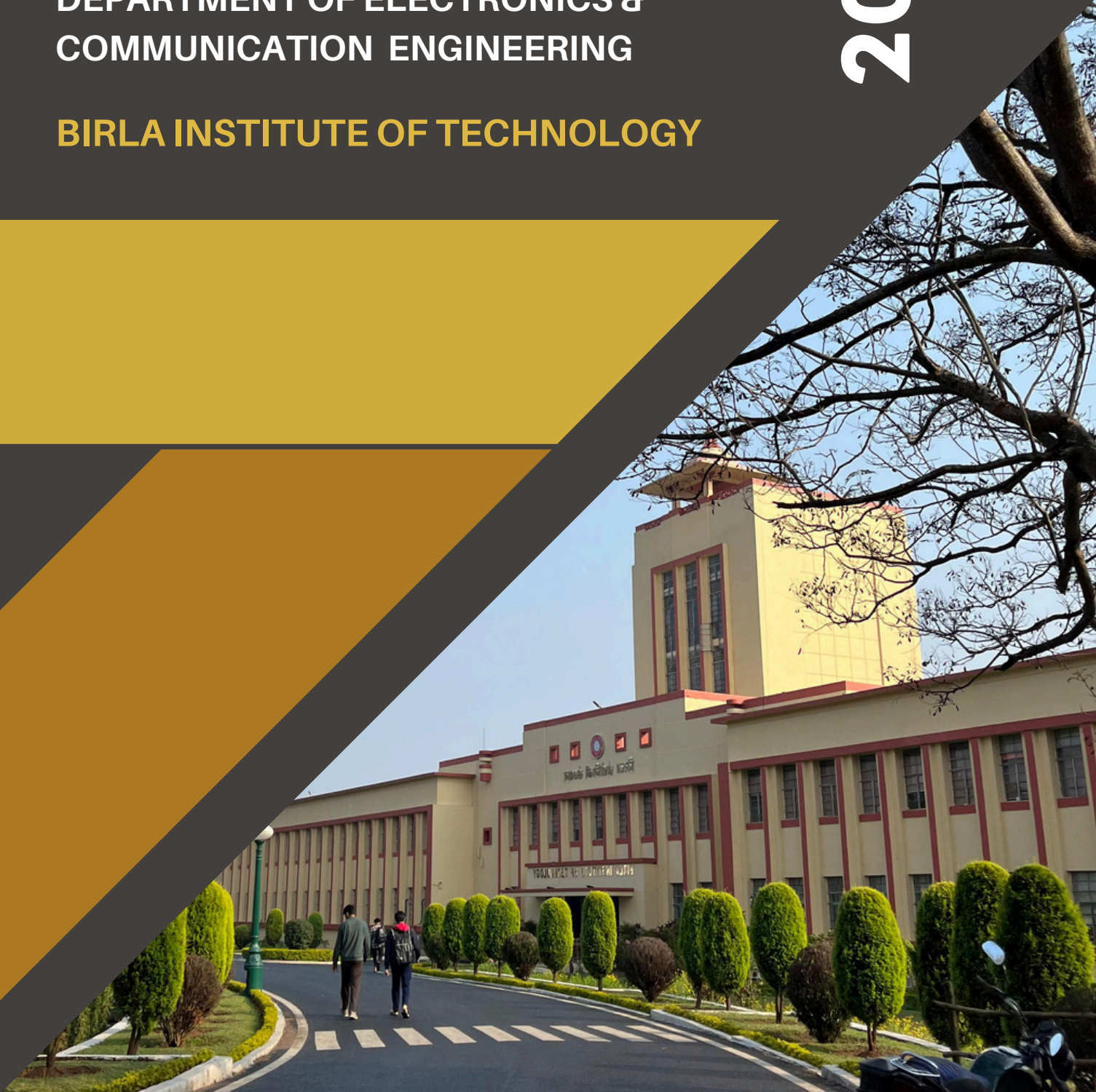# PLACEMENT
BROCHURE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BIRLA INSTITUTE OF TECHNOLOGY

2024-2025

ABOUT THE DEPARTMENT

Established in 1960, the Department of Electronics and Communication Engineering at BIT Mesra has grown significantly, boasting the highest student and faculty enrolment. It offers cutting-edge UG and PG laboratories and a curriculum aligned with industry needs, supporting research in Communication Engineering, Signal Processing, and VLSI Design. Notably, the department secures funding from esteemed organizations like ISRO and DST, fostering innovation and academic excellence.

PROGRAMS OFFERED

UG PROGRAMMES

B.Tech in Electronics & Communication Engineering

PG PROGRAMMES

M.Tech in Instrumentation Engineering
M.Tech in Microwave Engineering
M.Tech in Wireless Communication
M.Tech in VLSI Design & Embedded System

DOCTRAL PROGRAMMES

PhD

COURSES OFFERED

B.TECH

- ELECTRONIC DEVICES
- DIGITAL SYSTEM DESIGN
- ANALOG COMMUNICATION
- SIGNALS AND SYSTEMS
- MICROPROCESSORS AND MICROCONTROLLERS
- NETWORK THEORY
- VLSI SYSTEM
- DIGITAL COMMUNICATION
- ANALOG CIRCUITS
- DATA COMMUNICATION
- ELECTROMAGNETIC FIELD AND WAVES
- ELECTRONIC MEASUREMENTS
- PROBABILITY AND RANDOM PROCESSES
- CONTROL SYSTEMS
- SIGNAL PROCESSING TECHNIQUES
- MICROWAVE THEORY AND TECHNIQUES

M.TECH

- ADVANCED SENSING TECHNIQUES
- ADVANCED DIGITAL SIGNAL PROCESSING
- ARTIFICIAL INTELLIGENCE SYSTEM
- EMBEDDED SYSTEM DESIGN
- ADVANCED ELECTROMAGNETIC ENGINEERING
- MICROWAVE AND Mm-WAVE INTEGRATED CIRCUITS
- MODERN OPTIMIZATION TECHNIQUES
- WIRELESS SYSTEMS AND NETWORKS
- STOCHASTIC PROCESSES AND INFORMATION THEORY
- CODING THEORY AND APPLICATIONS
- ADVANCED WIRELESS COMMUNICATION
- ANTENNAS AND DIVERSITY
- APPLIED INDUSTRIAL INSTRUMENTATION
- CMOS ANALOG VLSI DESIGN

RESEARCH AREAS

- Signal Processing in VLSI
- Speech Processing and Recognition
- Image Processing
- Fibre Optic Instrumentation and Communication
- Optoelectronic Semiconductor Devices
- VLSI Design
- Embedded System Design
- RF/Microwave/Mm. Wave Filters/Circuits/Components design, analysis and synthesis. Metamaterials
- Microwave propagation in any media
- Smart, Reconfigurable, UWB and Fractal Circuits/Antennas
- AI techniques in Microwave Circuits/Antennas, Antenna Design for SDR, Antennas for Wearable application and Wireless Communications
- Microwave material characterization
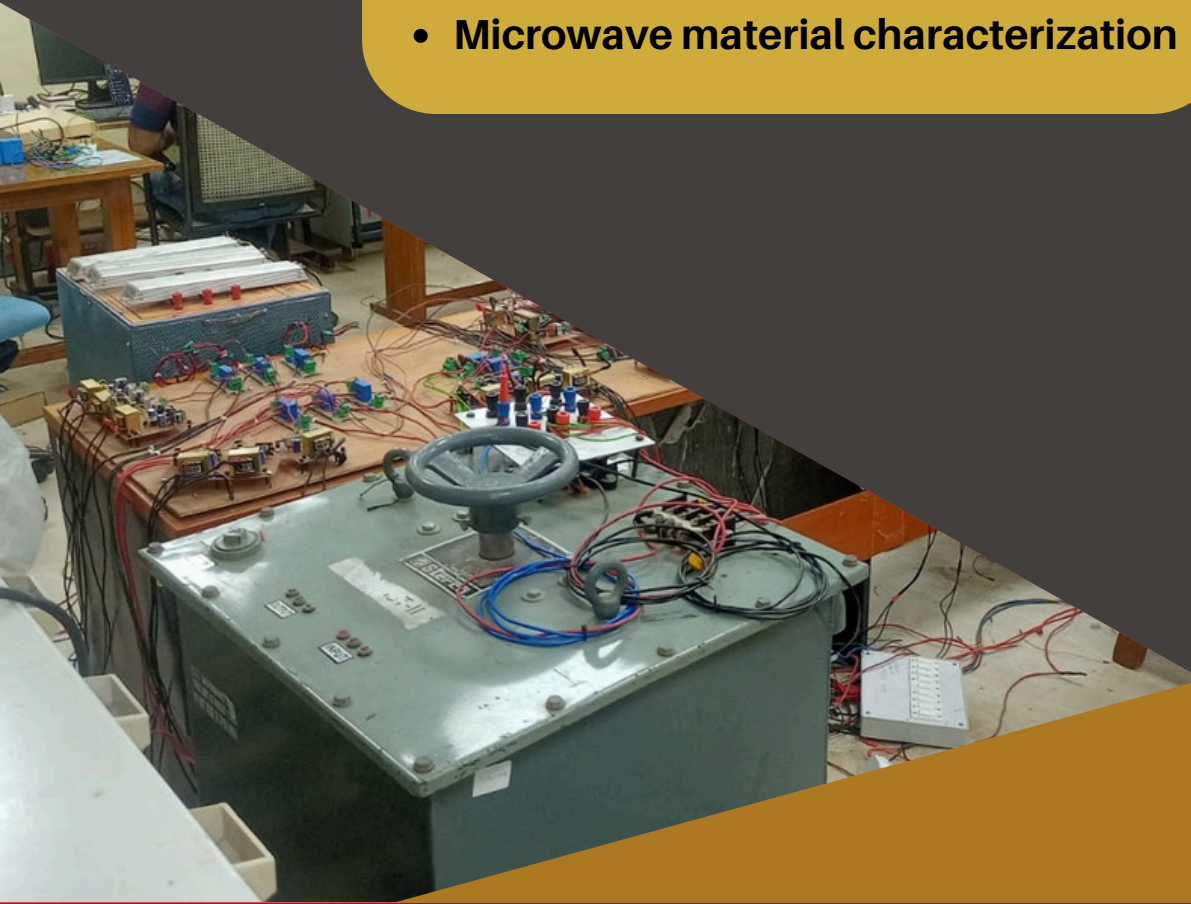
LABORATORIES & FACILITIES

- ADVANCED COMMUNICATION LAB
- BASIC ELECTRONICS LAB
- ANTENNA LAB
- COMPUTATIONAL ELECTROMAGNETICS LAB (CEM LAB)
- CIRCUIT SIMULATION LAB
- COMMUNICATION SYSTEM LAB
- VLSI LAB
- DIGITAL ELECTRONICS LAB
- EMBEDDED SYSTEM LAB
- INSTRUMENTATION LAB
- FIBRE OPTICS RESEARCH LAB
- MICROPROCESSOR LAB
- MICROWAVE INTEGRATED CIRCUIT LAB
- WIRELESS COMMUNICATION LAB
- SIGNAL PROCESSING LAB

SOFTWARE

- MULTISIM
- COMMSIM
- ULTIBOARD
- MATLAB
- LABVIEW
- MDSPICE
- FIDELITY
- NS-2
- CADENCE DESIGN TOOLS
- ACTIVE HDL
- SYNPLIFY

ACHIVEMENTS

01

Smart Health Monitoring Prototype

- Prototyping a low-cost, micro, smart health monitor for patients, with a cloud system to address issues caused by inadequate primary health care and ongoing care in underdeveloped rural areas.

02

Design of Data Glove

- Students devised a data glove translating Indian sign language and daily gestures into speech, aiding communication for people with special abilities.
- They built a Parkinson's disease detection model using machine learning and speech signals.

03

IoT Based Emergency Button for Prioritized Vehicle

- Student of the department developed a IoT Based Emergency button for prioritized vehicles that will help to provide an alternative pathway by SMS with the help of different communication protocols and sensor integration
- It has published patent.

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