

# ONLINE WINTER TRAINING ON MICROELECTRONICS TECHNOLOGY AND VLSI DESIGN



## IC DESIGN & FABRICATION CENTRE

Department of Electronics & Telecommunication Engineering  
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*Because of COVID-19 pandemic situation the program will be conducted online and participants have to work-from home as per our guidelines.*

### [1] VLSI Design using EDA Tools (1½ week)

- a) Introduction to EDA Tools
- b) Basic gates design using Schematic Capture
- c) Netlisting Using T-Spice
- d) Verification of design using waveform editor
- e) Layout design using L-edit
- f) Parasitic extraction

### [2] Design Verification Using VHDL and FPGA Implementation of Digital Systems. (1½ week)

- a) Introduction to Digital Systems Modeling using Verilog
- b) Verification of Digital Systems Design using Modelsim
- c) Synthesis of Digital system using Xilinx VIVADO tool
- d) Realization of digital systems on a Xilinx NEXYS4 DDR board
- e) Notion of RTL and Technology Schematic and Power Simulation

### [3] Fabrication and Characterization of semiconductor devices (1½ week)

- a) Mask Fabrication
- b) Theoretical Simulation
- c) Hardware fabrication for all process of Microelectronics: cleaning, etching, oxidation, diffusion, photolithography and Metallization.
- d) Characterization of fabricated device.

### [4] a) Real time system design issues b) Designing some real time systems c) Low-power VLSI Design: Issues and Challenges (1½ week)

**Duration:** 6 weeks, Course starts from 2nd week of January 2021 from 11-01-2021.

**Time:** Slot (i) 3pm to 5 pm (ii) 7pm to 9 pm. (Tuesday, Thursday & Saturday)

**Eligibility:** The Candidate should be at least B.E./B.Tech 3<sup>rd</sup> year and above in Electronics and Communication / Instrumentation / Electrical / Computer Science / Information Technology.

**Admission:** Plain paper Application with Bio-data will be submitted in this e-mail address <[bhowmikbikash07@gmail.com](mailto:bhowmikbikash07@gmail.com)> shall be received within 9th January 2021.

**Fees:** @ Rupees 4,200/- Students Fees + 18% GST (Rs. 756/-) = Total Rs. 4956/- in demand draft should be drawn in favour of "REGISTRAR, JADAVPUR UNIVERSITY", in any branches of "State Bank of India" payable at Kolkata. DD should be sent by Registree post or by hand in our office. Once deposited the course fee cannot be refunded.