

SHORT COURSE ON EMBEDDED SYSTEM



IC DESIGN & FABRICATION CENTRE
Department of Electronics & Telecommunication Engineering
Jadavpur University, Kolkata – 700032

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[Design Verification Using Verilog and FPGA Implementation of Digital System]

For 2 weeks = 2 x 5 x 4 hours	
Day	Topics
1	Introduction to Digital System Design
2	Introduction to Embedded System
3	FPGA Basics
4	FPGA Basics
5	Verilog Programming
6	Verilog Programming
7	Verilog Programming
8	Implementation on FPGA (Lab)
9	Implementation on FPGA (Lab)
10	Implementation on FPGA (Lab)

[Microprocessor – 8085]

Microprocessor Syllabus for 2 weeks = 2 x 5 x 4 hours	
Day	Topics
1	History of Microprocessor How CPU is made
2	Pin Diagram of 8085
3	Architecture of 8085 Working of 8085 (Block level approach)
4	8085 instruction set
5	Use Simulator
6	Programming Style
7	Practical Session Using Simulator (Some programs & programming approach using algorithm & flowchart)
8	Memory Interfacing & RS232 communications
9	8085 Interrupts Interfacing 8279, 8251, 8253 with 8085
10	Hardware Demonstration Application

[Microcontroller – Arduino]

Microcontroller Syllabus for 2 weeks = 2 x 5 x 4 hours	
Day	Topics
1	Fundamentals of Embedded system Demonstration of Interesting project(s) (real life)
2	Getting Started with Arduino Exploring the Board of IDE (with its installation procedure) Concept of Electricity & Basic Electronic Components
3	LED & Switch Interfacing Using Arduino
4	Sevel Segment LED & Matrix keypad Interfacing Using Arduino
5	LCD & Buzzer Interfacing Using Arduino
6	Serial Communication Using PC & Relay Interfacing Using Arduino
7	Temperature & Humidity Sensor, Light Sensor & PIR Sensor Interfacing Using Arduino
8	IR remote control & Motors Interfacing Using Arduino
9	Ping Sensor & RTC Interfacing Using Arduino
10	Combine Project & Instruct them to submit a Training Report & Make a Project with Project Reoport

Duration: 6 weeks [Course starts from 1st week of January 2016 tentatively. Final date will be announced later on]

Time: 12 Noon to 4 PM

Eligibility: The Candidate should be at least Final year Diploma and B.E./B.Tech 3rd year or above in Electronics and Communication / Instrumentation / Electrical / Computer Science / Information Technology, M.Sc. (Electronics & Computer Science), B.Sc. (Electronics & Computer science), IETE, AMIE (Section A&B).

Admission: Application form will be issued from the IC Centre, Department of Electronics & Telecommunication Engineering, Jadavpur University & Soft copy of application form is available in our website: www.juiccentre.in. Filled in application form shall be received at IC Centre during working hours (Monday to Friday, 11 AM to 5 PM). Total seat **30**. Admission shall be first come first serve basis.

Fees: @ Rupees **8,000/-** in demand draft should be drawn in favour of “**REGISTRAR, JADAVPUR UNIVERSITY**”, in any branches of “**State Bank of India**” payable at Kolkata. Once deposited the course fee cannot be refunded. Hostel accommodation cannot be provided.

Enclosure: One copy of PP Size Photograph, **Xerox copy** of Madhyamik Admit Card, HS Marksheet, all Semesters Mark sheet & other certificates. [Attested copies of Mark sheets/Certificates to be enclosed]

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