

Theme of the Training Program:

A Field-Programmable Gate Array (**FPGA**) is a pre-fabricated silicon chip containing an array of configurable logic blocks (CLBs) that can be programmed to become almost any kind of digital circuit or system. FPGAs feature its ability to be configured in the field to implement an arbitrary desired function according to the real-time demands.

Another appealing characteristic of FPGAs is their ability to integrate multiple functions or a complete system on a single chip. This is a generic trend in today's integrated circuit design and is referred to as system-on-chip (SoC) concept.

Other features of today's high end FPGAs include embedded processors (PowerPC, ARM), which can run a variety of Real Time Operating Systems (RTOS) and powerful serial links, which support implementation of a multitude of open-standards protocols like Gigabit Ethernet, Fibre Channel, RapidIO, Infiniband and similar.

These abilities of FPGAs can help people to achieve a faster design cycle, lower development costs and a reduced time-to-market compared to conventional Application Specific Integrated Circuits (ASICs).

In the last decade, due to the exponential growth in silicon densities and the maturity of the associated software tools, new segments of the digital design market have found solutions in the FPGA realm. FPGAs, therefore, are widely used in many applications such as robotics, networking, storage systems, communication, digital signal processing, electronic control systems and adaptive computing.

This will be very intensive course on FPGA based instruments development and VHDL programming. All required course materials will be provided during the course.

Scope:

Introduction to Programmable Logic And FPGA Technology
Introduction on Training-kit XILINX Spartan-3E
VHDL Programming – Entity, Architecture, Data Type, Signaling Standards, Concurrent Code, Sequential Code, State Machines, Component, Package And Digital Filters
Peripheral Programming- ADC interfacing, RS-232 Port, USB Port and TCP/IP
High Speed Data Acquisition
Digital Signal Processing
Programming of Embedded Controllers
Using FPGA in Nuclear Instruments

Course duration:

20 November to 1 December, 2011

Day: 10:00 am to 4:30 pm, every working day.

Course fee:

BDT 15000.00

Payment should be made with bank draft/pay order in favour of “ইনস্টিটিউট অব ইলেকট্রনিক্স এর ট্রেনিং খাতের আয়-ব্যয়”, Ac No. SND-49
EPZ branch, Uttara Bank Ltd.

Qualification of participants:

Class one officer/Lecturer /B.Sc. (Hons.) in Applied Physics and Electronics/Equivalent or B.Sc. engineering in EE/CSE/Equivalent.

Course coordinator:

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