

DON BOSCO INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION
IEEE-DBIT STUDENT BRANCH

Report on Hands on Workshop on FPGA Based Digital System Design Using Xilinx Software

Topic: FPGA based digital system design using Xilinx software workshop.

Date: 23rd, 24th, 27th and 28th February, 2019

Time: 9:00 a.m.-5:00 p.m.

Venue: VLSI and Embedded system laboratory.

Speakers: Ms. Lakshmi.V and Dr. Mande.

Discription:

A) First day – February 23rd, 2019





The session started with an introductory speech by the principal Dr. Prasanna Nambiar followed by the HOD Ms. Ashwini Kotrasetthi and Ms. Lakshmi .V, welcoming the students with gratitude and sharing their knowledge as to why these workshops are held and how students get the hands on experience and opportunities to learn about a particular topic taught in a particular workshop. After the welcoming session Dr. Mande continued the session by briefing the students with an introductory presentation about FPGA and its various applications, advantages and disadvantages. Finally the session was taken over by Ms.Lakshmi .V, who conducted the entire Hands on training workshop. To start with the difference between FPGA , ASIC and microcontrollers and how FPGA is better and reliable was explained. The coding language i.e VHDL/ Verilog was then explained in detail along with examples of various code. Coding of various logic gates and other combinational circuits using Xilinx software was then taught to the students in the first session.

B) Second Day – February 24th, 2019



The second day started at 09:00 am wherein the session was continued by Ms. Lakshmi, teaching the students how to code furthermore on the mentioned software. The students had a great experience learning about how to code and write a test bench for the particular code for circuits like a half adder, full adder, clock generation (divider). The students were taught how to write a UCF file and generate a bin file to burn the particular code on a Spartan 6 board (which was provided to the students) which was a great hands on experience.

C) Third Day – February 27th, 2019

The session continued on the 3rd day at the same time followed by the topic of coding a (4:1) multiplexer, seven segment display and sequence detector and PWM generation for which the code, test bench and UCL file for burning the program was taught. At the end of the session maam also showed us how VHDL code can be used to drive a motor and control the speed of the motor.

D) Fourth Day – February 28th, 2019

On the fourth day a test of 3 hours was conducted i.e from 09:00am to 12:00 pm basically to understand how much the students could grasp from this particular workshop and how much did the workshop really help them. The test included basic questions related to FPGA and few questions on coding which was like a confidence booster for the students along with a great learning experience after which the workshop commenced. The students were also felicitated by a certificate after the workshop was completed after which the students also gave their individual feedback for the wonderful hands on experience.



Feedback:

1) Minita Joshee (SE-EXTC) :



The FPGA workshop conducted for the S.E. EXTC students was a huge success. We learnt everything from scratch right from the basics of FPGA to using the board for various purposes. The faculty made sure that the minutest of details were covered in the workshop. The test held on the final day was a great idea too..Cheers to IEEE for arranging such workshops which will definitely be of great help to students in the long run! We look forward to such learning experiences in the future.

2) Amaan Nizam (SE-EXTC) :



Attending the FPGA workshop by Xilinx software was a great prodigy in the making. Learning the software and burning the files onto the FPGA board was a great experience in a whole. It really was a good learning experience for all of us. I look forward to such workshops being organized in the future by IEEE.

Vote Of Thanks: Ms. Redalia D'souza

Report Prepared by: Ms. Redalia D'souza (SE EXTC)

Report Approved by: Ms. Lakshmi.V.