School of Computer Science Engineering and Technology

Course- BCA	Type- Core
Course Code- CBCA101	Course Name- Digital Design and CO
Year- 2022	Semester- odd
Date- …….	Batch- ALL

Lab Assignment 2 – Digital Design and Computer Organization

The digital circuits can be effectively represented by means of interconnected diagrams. This is being termed as schematic diagram. There is another way to describe digital circuits by using a textual language which is specifically intended to capture the defining features of digital design clearly and concisely.

Such languages exist, and they are called hardware description languages (HDLs). HDLs resemble high-level programming languages such as C or Python, but it's important to understand that there is a fundamental difference: statements in HDL code involve parallel operation, whereas programming languages represent sequential operation.

Verilog is a hardware description language (HDL) used to model electronic systems. In this lab, you will learn to represent hardware circuits by using Verilog in depth.

As the basic of Digital Design, you will perform number system conversion in today's lab. Write the following programs in Python.

Experiment No.	Name	CO1	CO2	CO2
2	Number System Conversion	✓	---	---

1. Write a program to convert any decimal number into corresponding binary number.

   Sample output: Enter the number in Decimal system: $(13)_{10}$
   Corresponding Binary Number is: $(1101)_2$

2. Write a program to convert any binary number into corresponding decimal number.

   Sample output: Enter the number in binary system: $(1100)_2$
   Corresponding Decimal Number is: $(12)_{10}$

3. Write a program to convert any binary number into corresponding Octal number.

   Sample output: Enter the number in binary system: $(1100)_2$

   Corresponding Octal Number is: $(14)_8$

4. Write a program to convert any binary number into corresponding Hexadecimal number.

   Sample output: Enter the number in binary system: $(10010)_2$
   Corresponding Hexadecimal Number is: $(12)_{16}$

5. Write a program to convert any Octal number into corresponding Hexadecimal number.

   Sample output: Enter the number in binary system: $(567)_8$
   Corresponding Decimal Number is: $(177)_{16}$

6. Write a program to convert any decimal number into corresponding Hexadecimal number.

   Sample output: Enter the number in binary system: $(345)_{10}$
   Corresponding Octal Number is: $(159)_{16}$

Submission Instructions:

- Submit your python file on LMS **within the deadline**. Save all the files as per the format **RollNo_Lab#_QuestionNo.py (Example: E20CSE001_Lab1_Q1.py)**.
- Keep all six programs in a zip file, name it as **RollNo_Assignment# (Example: E20CSE002_Assignment01)** and submit the zip file on LMS.
- Write your **Name and Roll No. as comment before starting of each program**. Keep in mind this is **Mandatory**. Failing which you may lose your marks.
- Make it sure that in each program, you have mentioned enough comments regarding the explanation of program instructions.
- Late submission will lead to penalty.
- Any form of plagiarism/copying from peer or internet sources will lead penalty.
- Following of all instructions at submission time is mandatory. Missing of any instructions at submission time will lead penalty.