Amrita Vishwa Vidyapeetham
B.Tech. Degree CSE (AI) First Semester
Computational Engineering and Networking

19AIE101-Elements of Computing Systems-1 : Presentation Assignment 1 (Group-wise)

Max marks: 100*

This evaluation aims at the following course coutcome
CO1: Explain the concept of Boolean Algebra and Digital Logic

Qn No	Question	Marks
1	Perform the following number system conversions (You can show the results compuationally in Excel without using direct conversion formula) a) 153.153_{10} to its octal equivalent b) 23.12_{16} to its binary equivalent c) 101100011.101_2 to its decimal equivalent d) $BEED_{16}$ to its decimal equivalent	20
2	a) Find the 2's complement representation of 17. Justify your answer. b) Illustrate subtraction using 2's complement (Take an example in 8-bit representation).	10
3	Perform BCD Addition of the following decimals. Also indicate how many BCD corrections are required in (a) and (b) a) 49 and 57 b) 176 and 824	20
4	Illustrate the problem of overflow in binary addition (Take an example in 5-bit representation)	10
5	Find the gray code equivalent of the 4-bit binary numbers. Show the procedure of conversion. How can we obtain the gray code representation for (m+1) bits from m-bits.	10
6	Realize AND, NOT and OR and NOR gates using NAND gates. Implement the logic in HDL and test the chip or gate logic using hardware simulator (Use interactive simulation during presentation to show the results)	30

***50 % weightage of marks for each question is for the quality of presentation and the remaining 50% is for the correctness of the answers (with proper steps/procedures/design)**	
ie., Out of the total 100 marks; Correctness of answers =50 Marks **Quality of presentation =50 Marks**	

Rubrics for Presentation (Max Marks: 50)	Marks
Nicely prepared slides and excellent oral presentation	50
Slides are good, presentation is not good or vice versa	40
Slides and presentation are of average quality	30
Slides and presentation are of below average quality	20

See the instruction file for more information