

Logic Design - Fall 2022-2023 – Homework 1

Instructions:

- 1- Please submit before deadline
- 2- Answer the questions in details with standard procedures as per examples in lecture notes
- 3- Solve assigned questions only as per below table.
- 4- Answer the questions as handwritten on white A4 paper, then scan and include all scanned images in a single word or pdf document.
- 5- Submit the answer in SIS system under the assignment HW_1

	Questions	1	2	3	4	5	6	7	8	9	10	11	12
#	Student Name												
1	Abdulrahman Hassan Zakarya	b	d	c	a	d	a	d	b	c	b	c	c
2	Aesan Azad Mikhael	a	c	c	b	c	b	c	a	b	d	b	d
3	Ahmed Salah Ismail	c	a	b	b	d	d	a	a	c	d	c	c
4	Ahmed Sarhang Mohammed	c	d	b	b	c	a	c	b	c	d	c	c
5	Anas Bilal Ali	c	c	a	a	d	b	a	d	c	d	b	c
6	Blind Salim Faqi	c	b	b	a	d	b	b	c	d	c	a	c
7	Chener Farhad Othman	a	d	d	b	a	b	a	a	c	d	a	a
8	Eman Dlashad Khidir	c	d	c	b	a	a	b	a	c	d	c	d
9	Ghazaly Faris Yousif	b	a	c	d	c	a	b	d	d	b	c	d
10	Kamran Bakhtyar Abdulqader	d	d	d	d	c	b	c	c	b	d	a	b
11	Khalid Amir Maml	c	d	b	d	d	b	c	a	c	b	d	d
12	Lava Ahmed Mohammed	d	d	d	a	d	a	b	c	a	b	d	c
13	Matin Guli	b	c	a	a	b	a	b	b	c	b	b	d
14	Meer Hoger Shakir	b	a	a	c	d	d	d	a	c	d	b	d
15	Milad Mazin Khdir	b	d	b	a	c	a	d	a	c	c	b	d
16	Mohammad Karkhi Mohammad	c	c	a	a	b	d	a	c	c	c	d	b
17	Nihad Naji Bag	c	c	d	a	b	d	b	a	c	a	b	c
18	Raman Hamadameen Omer	d	c	c	a	b	c	d	d	a	b	a	a
19	Rashwan Abdulrahman Abduljabar	b	a	a	c	c	c	c	d	a	d	b	b
20	Rastgo Farman Izaddin	c	a	b	a	d	c	a	a	b	a	c	c
21	Rebar Shamal Mamand	c	d	a	d	b	b	b	b	a	c	b	c
22	Saywan Nuri Rashed Ali	d	b	d	d	c	d	b	a	d	a	b	b
23	Shad Mohammed Taha Hussin	b	c	b	a	b	a	b	a	d	b	c	d
24	Solav Rebwar Hamo	b	b	d	d	c	a	c	a	c	c	d	d
25	Yousif Emyan Aziz	b	c	d	a	d	b	b	b	c	c	b	c
26	Zagros Ramzi Aziz	a	b	c	c	a	b	a	d	a	b	b	d
27	Zainab Musher Saeed	d	a	c	d	a	a	a	b	a	d	d	b

Lecture 1 Number Systems Questions

Q1\ Convert the following binary integer numbers to decimal:

(a) 10000001 (b) 1011001 (c) 11001000 (d) 1111111111

Q2\ Convert each decimal integer number to binary

(a) 467 (b) 341 (c) 645 (d) 2047

Q3\ Determine the 1's complement of each binary number based on 8-bit:

(a) 11000 (b) 1011011 (c) 1001010 (d) 101010

Q4\ Determine the 2's complement of each binary number based on 8-bit:

(a) 101011 (b) 111001 (c) 11001100 (d) 110111

Q5\ Express each decimal number as an 8-bit number in the signed 2's complement method:

(a) +27 (b) -28 (c) +103 (d) -121

Q6\ Determine the decimal value of each signed 8-bit binary number in the 2's complement form:

(a) 10111001 (b) 01111100 (c) 10110111 (d) 10101111

Q7\ Convert each hexadecimal number to binary:

(a) 66_{16} (b) $D4_{16}$ (c) $A5C_{16}$ (d) BCD_{16}

Q8\ Convert each binary number to hexadecimal:

(a) 111111 (b) 1010101010 (c) 101011100 (d) 101111011

Q9\ Convert each octal number into binary:

(a) 65_8 (b) 37_8 (c) 576_8 (d) 340_8

Q10\ Convert each binary number to octal:

(a) 10000 (b) 110000 (c) 1001001 (d) 10100010

Q11\ Convert each of the following decimal numbers to BCD:

(a) 79 (b) 35 (c) 57 (d) 135

Q12\ Convert each of the BCD numbers to decimal:

(a) 10001 (b) 001100010 (c) 010000101 (d) 1000011000