

## DLD LAB MANUAL 1

### Purpose of this Lab:

- Understanding the number system and their conversions
- Arithmetic Operations

### Note:

- *Attempt all the questions by using pen & paper. Take "clear" pictures and upload them in G-classroom.*
- *Show the working and all steps to obtain full marks.*

Q1- Convert the following number in base 8 and 16.

- a)  $(1234)_5$
- b)  $(187419)_{10}$
- c)  $(122)_{10}$

Q2- Add the following binary numbers.

- a)  $11+11$
- b)  $110+100$
- c)  $1010100+1000011$

Q3- Perform the following binary subtraction.

- a)  $11-01$
- b)  $111 - 100$
- c)  $1010100-1000011$

Q4- Perform the following binary multiplication.

- a)  $11 \times 11$
- b)  $101 \times 111$

Q5- Convert the following binary numbers to hexadecimal.

- a)  $1100101001010111$
- b)  $11001010101001$

Q6- Determine the binary number for the following hexadecimal number.

- a)  $(10A)_{16}$

Q7- Convert the following hexadecimal number to decimal.

- a)  $(E5)_{16}$

Q8- Subtract the following hexadecimal numbers.

- a)  $(84)_{16}-(2A)_{16}$
- b)  $(C3)_{16}-(B)_{16}$

Q9- Add the following hexadecimal numbers.

- a)  $(4A)_{16} + (3F)_{16}$
- b)  $(BF)_{16} + (AC)_{16}$

Q10- Multiply the following hexadecimal numbers.

- a)  $(1F)_{16} * (C)_{16}$
- b)  $(2B)_{16} * (5A)_{16}$

Q11- Subtract the following octal numbers.

$$(537)_8 - (162)_8$$

Q12- Add the following octal numbers.

- a)  $(162)_8 + (537)_8$
- b)  $(136)_8 + (636)_8$

Q13- Multiply the following octal numbers.

- a)  $(6)_8 * (23)_8$
- b)  $(15)_8 * (44)_8$