

DEPARTMENT: ELECTRICAL

SEMESTER: 3RD

NAME: DIGITAL FUNDAMENTAL SUBJECT

CODE: 3130704

FACULTY NAME: SUNIL PATEL

ASSIGMENT 1: NUMBER SYSTEM

1. Convert the following Numbers as directed:

$$(1)(52)_{10} = ()_2$$

$$(2) (101001011)_2 = ()_{10}$$

$$(3)(11101110)_2 = ()$$

$$(4) (68)_{10} = ()_{16}$$

2. Define: Digital System.

Convert following Hexadecimal Number to Decimal: B28, FFF, F28

Convert following Octal Number to Hexadecimal and Binary: 414, 574, 725.25

- 3. Explain with figures how NAND gate and NOR gate can be used as Universal gate.
- 4. Draw the logic symbol and construct the truth table for each of the following gates.
 - [1] NAND gate [2] NOR gate [3] AND gate [4] OR gate
 - [5] EX-NOR gate [6] NOT gate
- 5. Add $(28)_{10}$ and $(15)_{10}$ by converting them into binary.

Perform (28)₁₀ and (15)₁₀ using 6 bit 1's complement

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