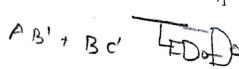
Total no. of pages:01 FOURTH SEMESTER MID SEMESTER EXAMINATION TIME: 1.5 Hrs. Note: All questions are compulsory. Assume suitable missing data, if any. Q1,

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DIGITAL ELECTRONICS Write short notes on the following with reference to the various [1.5*4]

- c. Power Dissipation
- d. Figure of Merit



Q2. Explain the operation of the TTL NAND gate with totem pole Q3. (i)

Implement the Full Adder circuit with the help of minimum [4] [4]

Implement the Half Adder using CMOS logic family.

Express the following in the minimized sum of products form: [2] [2*2]

- a. $F(A,B,C,D) = \sum (0,2,6,\overline{11,13,14})$
- **b.** $F(A,B,C) = \prod (0,3,6,7)$

Convert the following to the other canonical form

a. $F(A,B,C,D) = \prod (0,1,2,3,4,6,12)$ [1*2]

b. $F(A,B,C) = \sum (1,3,7)$

Convert the following numbers into their equivalent decimal [1*2] numbers: **a.** (6327.4051)₈

b. (B6.5)₁₆

Represent following decimal numbers in two's compliment form

[1*2]

b. +25

(iii). Perform the following arithmetic operations using two's complement method a. 4 - 7

[2*2]