**Examination Nov/Dec 2019**

H-1350

Total No. of Printed Pages:1

**SUBJECT CODE NO:- H-1350**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**T.Y.B.Tech. (ETC) (Sem -V)**
**Microelectronics**
**[OLD]**

[Time: Two Hours]                                                                 [Max.Marks:40]

Please check whether you have got the right question paper.

N.B
    i) Question No.1 and 4 are compulsory.
    ii) Assume suitable data wherever necessary.
    iii) Figures to the right indicate full marks.

Section A

Q.1    a)  Draw and explain VI characteristics of depletion & enhancement mode MOSFET.    04
        b)  List the parameters of MOSFET & explain.    04

Q.2    With neat diagrams explain NMOS enhancement type MOSFET fabrication.    06
        OR
    What do you mean by thermal aspects of processing on NMOS and CMOS fabrication?    06

Q.3    Write a short note on pass transistor.    06
        OR
    Derive the relationship between drain to source current & drain to source voltage for linear as well  06
    as saturation mode.

Section B

Q.4    a)  Comment on stick diagrams?    04
        b)  Explain delay unit.    04

Q.5    Explain in detail lambda based design rules.    06
        OR
    What is Super Buffer, where it's used, also give it's advantages?    06

Q.6    Write a note on Latch up in CMOS circuits.    06
        OR
    Give a case study on half adder circuit using spice circuit simulation.    06

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