

**M. TECH.-II (ELECTRONICS V.L.S.I.) (CBCS – 2015
COURSE) : WINTER - 2017
SUBJECT: ANALOG VLSI DESIGN**

Day: **Tuesday**
Date: **28/11/2017**

Time: **11.00 AM TO 02.00 PM**
Max Marks: 60

W-2017-2809

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figure to the right indicates **FULL** marks.
 - 3) Answer to both the section should be written in **SEPARATE** answer book.
 - 4) Assume suitable data, if necessary.
-

SECTION-I

- Q.1** How will you define Sub-Threshold MOS model? Explain in detail. **(10)**
OR
Describe in detail: MOS Transistor with its small signal equivalent circuit.
- Q.2** How MOS Switches act? Explain in brief. **(10)**
OR
What is Bandgap reference? Discuss in detail.
- Q.3** What is CMOS Inverter? Explain in brief with its types. **(10)**
OR
What are Differential Amplifiers? Write design steps of Differential Amplifier.

SECTION-II

- Q.4** How CMOS OP AMPs are designed? Explain in detail **(10)**
OR
How OP AMPs are compensated? Discuss in brief.
- Q.5** Why Low Voltage OP AMP is important? How it is designed? **(10)**
OR
Describe in detail: Micro Power OP AMP.
- Q.6** Why Switched Capacitor Circuits are important in VLSI Design? How it is **(10)**
designed?
OR
Explain Switched Capacitor Amplifier in detail.

* * * *