

Code No: I6803/R16

M. Tech. I Semester Regular Examinations, December-2016

**CMOS ANALOG IC DESIGN**

Common to VLSI&ES (68), ES&VLSI (48), VLSID &ES (77), ES &VLSID (81), VLSI (57),  
VLSID (72), VLSI System Design (61), VLSI & Micro Electronics (76)

Time: 3 Hours

Max. Marks: 60

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*Answer any FIVE Questions  
All Questions Carry Equal Marks*

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|------|---|--------|
| 1. a | Discuss about different parameters effects the threshold voltage of a MOS.                | 6M     |
| b    | Mention different types of capacitances exists in a MOS device.                           | 6M     |
| 2.   | Derive an integrator using switched capacitor circuit.                                    | 12M    |
| 3.   | Design Wilson current mirror circuit.   | 12M    |
| 4.   | Explain the miller compensation of a two stage op amp.                                    | 12M    |
| 5.   | Write about   | (6+6)M |
| (i)  | Auto zeroing technique  |        |
| (ii) | Comparator using hysteresis.  |        |
| 6.   | Describe the principle of band gap reference and explain conventional band gap reference. | 12M    |
| 7.   | (a) Classify different op amps  | (6+6)M |
| (b)  | Mention at least 10 specifications of an op amp.  |        |
| 8.   | Discuss about the cascading of op amp with suitable figure.                               | 12M    |

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