

Roll No.

Total Pages : 02

BT-8/D-24

48319

MIXED SIGNAL DESIGN
ECO-16A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What do you mean by sampling switches ? Draw the design of MOSFET as a switch. Discuss its functions in detail with charge injection cancellations. 15
2. What is the use of switched capacitor amplifiers ? Draw the diagram and explain the functions in detail of a switched capacitor integrator. 15

Unit II

3. Design the circuit of an analog multiplier and discuss its operation in detail. 15
4. Differentiate between simple PLL and charge pump PLL. Explain their applications. 15

Unit III

5. Draw the architecture of a D/A converter and explain its operation in detail. 15
6. Elaborate the following :
 - (a) Current steering 7.5
 - (b) R-2R ladder networks. 7.5

Unit IV

7. Design the architecture of ADCs. Explain different types of ADCs with their applications in detail. 15
8. Write short notes on the following : $2 \times 7.5 = 15$
 - (a) Integrating ADCs
 - (b) Applications of DACs.

EXAMKIT