ELECTRONICS (ELTG)
SEM-2
INTERNAL EXAMINATION
FULL MARKS 10

Answer any 5 question. Each question contains 2 marks.

1.What is the decimal equivalent of (1010.011)2?
2.What are the basic differences between a decoder and a demultiplexer?
3.Convert (BC56)16 to octal number system?
4. What is CMRR of an OPAMP?
5. Verify the Boolean identity $A + \overline{A}B = A + B$
6. What are the characteristics of an ideal OPAMP?
7. Why OPAMP is generally not used in open loop mode?

ELECTRONICS (ELTG)
SEM-2
THEORY EXAMINATION
FULL MARKS 25
Answer any 5 question. Each question contains 5 marks.

1. Subtract $(1000100)_2$ from $(1010100)_2$ using 2's compliment method.
2. Give the truth table of a half adder. How can you cascade 2 half adders to construct a full adder?
3. Give the circuit of a master-slave J-K flip-flop and explain its operation.
4. Draw the circuit diagram of a integrator and explain its operation.
5. Explain how an OPAMP can be used as a summing amplifier.
6. Explain SOP and POS with example.
7. Draw and explain zero crossing detector.

ELECTRONICS (ELTG)
SEM-2
PRACTICAL EXAMINATION
FULL MARKS 15
Answer any 3 question. Each question contains 5 marks.

1.Draw OR gate, AND gate, NOT gate, EX-OR gate and EX-NOR gate using NAND gates.
2.What do you mean by offset voltage and offset current of an OPAMP? Why offset null is required?
3.Draw Noninverting Amplifier and Unity Gain Buffer circuit using OPAMP
4. Daw a 4:1 MUX using NAND gates and write its truth table.
5. Draw SR, D and JK flipflops using NAND gates and write their truth tables.