Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Electronics Engg.) (2012 Onwards) (Sem.–5)
B.Tech.(ECE)/(Electronics & Computer Engg.)/(ETE)
(2011 Onwards)

LINEAR INTEGRATED CIRCUITS

Subject Code : BTEC-503
M.Code : 70547

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

a. An operational amplifier has slew rate of 2V/μs. If peak output voltage is 12 volts, what is the bandwidth of operational amplifier?

b. Differentiate between the open and closed frequency response.

c. How the input impedance of an ac voltage follower can be increased significantly?

d. Draw a circuit to find $V_0 = (V_1 + V_2) - (V_3 + V_4)$.

e. What is log amplifier? Draw the circuit of basic log amplifier.

f. Why we go for higher order filters.

g. What is VCO?

h. Define resolution of D/A converter.

i. List the applications of 555 timer in monostable mode of operation.

j. What is the working principle of switching regulator?

SECTION-B

2. What is level translator circuit? Why is it used with cascaded differential amplifier?

3. What is the effect of variation in power supply voltages on offset voltage?

4. How does negative feedback affect the performance of an inverting amplifier?

5. Draw and explain circuit diagram of voltage-to-current converter. Also explain **any two** applications of this converter.

6. Discuss with circuit diagram operation of square wave generator.

SECTION-C

7. a. Explain how 555 timer used as Schmitt trigger.

   b. Draw and explain circuit diagram of an integrator circuit. Derive an expression for the output voltage.

8. What is the operating principle of PLL? Explain its applications.

9. Write a note on voltage regulators.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.