# SATHYABAMA UNIVERSITY

**(Established under section 3 of UGC Act, 1956)**

Course & Branch: B.E - EEE
Title of the paper: Integrated Circuits
Semester: V                                     Max.Marks: 80
Sub.Code: 414502                                Time: 3 Hours
Date: 20-04-2009                                Session: AN

PART – A                    (10 x 2 = 20)
Answer All the Questions

1.  What is ion implantation? Give its advantages.

2.  What is meant by parasitic capacitance?

3.  List six characteristics of op-amp.

4.  How is the slew rate measured?

5.  What is a precision diode?

6.  Draw a sample and hold circuit.

7.  List different types of comparator.

8.  Why do we use higher order filters?

9.  Which is greater, capture range or lock range?

10. How many resistors are required in a 12 bit weighted resistor DAC?

PART – B             (5 x 12 = 60)
Answer All the Questions

11. Describe the epitaxial growth process.

(or)

12. Explain why inductors are difficult to fabricate in ICs.

13. Explain why active load is used.

(or)

14. Draw and explain the functional diagram of 555 timer.

15. Draw and explain the operation of an ac voltage follower having very high input resistance.

(or)

16. Draw the circuit of a log amplifier using two op-amps and explain its operation.

17. Explain the operating of a square wave generator by drawing the capacitor and output voltage waveforms.

(or)

18. Explain the monostable multivibrator to generate pulses of desired duration.

19. Draw the circuit of PLL AM detector and explain its operation.

(or)

20. Explain the operation of dual slope ADC.