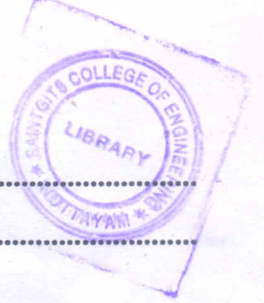G 1559

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B.TECH. DEGREE EXAMINATION, MAY 2015

Fourth Semester

Branch : Applied Electronics and Instrumentation/Electronics and Communication Engineering

AI 010 406/EC 010 406—ANALOG CIRCUITS—II (AI, EC)

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 3 marks.

1. Define Input offset voltage.

2. Draw the circuit diagram of a balanced-output differential amplifier.

3. Define SVRR.

4. Explain the condition for Oscillation.

5. Draw basic PLL topology.

(5 × 3 = 15 marks)

Part B

Answer all questions.
Each question carries 5 marks.

6. Discuss the characteristics of an ideal OP-AMP.

7. Draw and explain the simplified equivalent circuit of an OP-AMP.

8. Explain differential amplifier.

9. Discuss first order high pass filter with circuit diagram.

10. Explain ADC and DAC.

(5 × 5 = 25 marks)

Part C

Answer all questions.
Each question carries 12 marks.

11. With a block diagram explain Wilson current mirror.

Or

12. Discuss AC, analysis of a dual input balanced output differential amplifier.

Turn over

13. Differentiate between Inverting and Non-inverting amplifier with diagrams.

Or

14. Explain DC and AC analysis of Cascode amplifier.

15. With a neat diagram, explain Wein Bridge oscillator.

Or

16. Explain Schmitt trigger with circuit diagram.

17. Differentiate between Band pass and Band elimination filters.

Or

18. Explain Biquadriatic filters.

19. Discuss Voltage Controlled Oscillator (VCO).

Or

20. With a neat diagram, explain Ramp type ADC.

(5 × 12 = 60 marks)