ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : SEPTEMBER 2009

REGULATIONS – 2007

THIRD SEMESTER – ELECTRICAL AND ELECTRONICS ENGINEERING

070290008 – ELECTRONIC CIRCUITS

TIME : 3 Hours   Max.Marks : 100

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. Why do we choose q - point at the center of the d.c. loadline?
2. List out the different types of biasing.
3. What are the requirements for biasing circuits?
4. What is the necessary of the coupling capacitor?
5. What is the advantage of negative feed back?
6. Define sensitivity.
7. Define Common Mode Rejection Ratio.
8. What is Astable Multivibrator?
9. What are the conditions to be satisfied by an oscillator?
10. Define Piezoelectric effect.
11. List the important characteristics of a voltage regulator.
12. What is the classification of tuned amplifiers?
13. What are the advantages of double tuned over single tuned?
14. Give the applications of Schmitt trigger.
15. Differentiate multivibrators and oscillators
16. Define line and load regulation
17. Define Ripple factor
18. What is the main draw back of SMPS?
19. What is major advantage of differential amplifiers over other voltage amplifiers?

20. A tuned circuit has a resonant frequency of 1600 kHz and a bandwidth of 10 kHz. What is the value of its Q factor?

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Draw and explain the small signal equivalent of CE transistor amplifier. Derive its various parameters.

22. Draw the circuit diagram of differential amplifier. Explain its working in detail in both common and differential modes.

23. Draw the block diagram of SMPS and explain its operation and advantages.

24. Draw the circuit diagram of an oscillator which produces audio frequencies using a two stage amplifier. Explain its operation. Derive the expression for its frequency of oscillation.

25. Derive and draw the circuit diagram of single tuned amplifier and explain its operation.

26. Draw the circuit diagram of a Monostable Multivibrator. Explain its working with relevant waveforms.

27. Describe the working of full wave bridge rectifier with LC filter and derive the expression for ripple factor with and without filter.

28. Draw the circuit diagram of a UJT relaxation oscillator. Sketch the output waveforms and explain the circuit operation.

*****THE END*****