

ANNA UNIVERSITY COIMBATORE  
B.E. / B.TECH. DEGREE EXAMINATIONS : MAY / JUNE 2010  
REGULATIONS - 2007  
THIRD SEMESTER : EEE  
070290008 - ELECTRONIC CIRCUITS

TIME : 3 Hours

Max.Marks : 100

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. Define stability factor & Give the expression for stability factor?
2. When does a transistor act as a switch?
3. What is crossover distortion? How it can be eliminated?
4. Draw a quasi complimentary symmetry power amplifier?
5. What are the methods of improving CMRR?
6. List the four differential amplifier configurations
7. Mention the advantage and disadvantage of transformer coupling
8. Differentiate single or double tuned amplifier
9. What is meant by positive and negative feedback?
10. Define De-sensitivity?
11. What are the conditions for sustained oscillation?
12. How does an oscillator differ from an amplifier?
13. Draw a diode positive clamper.
14. What is the purpose of C in bistable multivibrators?
15. Draw a clipper that clips 2v in positive half cycle of a sinusoidal waveform.
16. Differentiate RC phase shift and wein-bridge oscillators.
17. Give the PIV rating of full wave bridge rectifier?
18. What is line regulation/
19. When C filter is preferred than L filter?
20. Differentiate SMPS and RPS.

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Draw the circuit of a common source FET amplifier & explain its operation?
22. Draw the circuit diagram of self-bias circuit using CE configuration and explain how it stabilizes operating point.
23. Explain the working of differential amplifier in common mode operation. Obtain its AC equivalent circuit & derive the expression for voltage gain?
24. Draw the circuit of push pull class B power amplifier coupled using transformers and explain the operation. Prove that all the even harmonics get eliminated in push pull class B power amplifier.
25. Explain the operation of Hartley oscillator. Also find the value of inductor in the Colpitts oscillator if  $c_1=0.2\mu\text{f}$ ,  $c_2=0.02\mu\text{f}$  And the frequency of the oscillator is 22 kHz. Find the required gain for Oscillator?
26. Draw and explain various feedback amplifier topologies? Also deduce the impedance and gain parameters.
27. Derive the expression for output voltage, average output, efficiency, PIV and TUF for full wave bridge rectifier.
28. With a neat circuit explain the working principle of collector coupled astable multi-vibrator, give equations and draw the necessary waveforms.

\*\*\*\*\*THE END\*\*\*\*\*