ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : MAY / JUNE 2010

REGULATIONS : 2007

THIRD SEMESTER : ECE

070290010 - ELECTRONIC CIRCUITS I

TIME : 3 Hours Max.Marks : 100

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. Give the reason to choose the Q point at the center of the load line?
2. Give the expression for stability factor.
3. List out the different types of biasing.
4. What is thermal runway?
5. What features does a CC amplifiers has got?
6. Write a note on small signal amplifier?
7. State Millers Theorem.
8. Draw the small signal hybrid model of CE amplifier.
9. What is meant by unity gain frequency?
10. Draw the high frequency hybrid –π model for a transistor in the CE
11. Define alpha cut off frequency.
12. Why it is not possible to use the h- parameters at high frequencies?
13. Give the drawback of class B amplifier? How is this minimized?
14. What is Harmonic distortion?
15. Write a note on class AB operation?
16. Differentiate a voltage amplifier and a power amplifier?
17. List two differences between a center-tapped and a bridge full-wave rectifier.
18. What is the principle of regulated power supply?

19. Give the ripple factor expression for C filter.
20. What is the function of Bleeder resistor?

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. a). Draw the circuit diagram of self-biased CE configuration and explain how it stabilizes operating point. (8)

    b). Write short notes on Bias compensation. (4)

22. a). Briefly explain the operation of Emitter follower. (6)

    b). Draw the Common Drain amplifier circuit and explain the working (6)

23. Draw the circuit of a common source FET amplifier & explain its operation.

24. Derive the expression for the CE short circuit current gain of transistor at high frequency.

25. With the help of neat diagram. Explain the characteristics of class A amplifier and also derive an expression for its efficiency and figure of merit.

26. Draw a neat circuit diagram of push-pull class-B amplifier. Explain its working.

27. Write short notes on

a) Voltage regulation using Zener diode. (6)

b). Series and Shunt Voltage Regulator. (6)

28. a). With neat diagram explain the operation of bridge rectifier. (8)

b). Brief about pi Section filters. (4)

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