Register Number | | | | | | | |

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act,1956)

Course & Branch :B.E - E&C/ECE/EIE/ETCE
Title of the Paper :Solid State Circuits – I Max. Marks :80
Sub. Code :418307-517307-518307-6C0035 Time : 3 Hours
Date :07/11/2009 Session :FN

PART - A (10 x 2 = 20)

Answer ALL the Questions

1. What is the need for regulator in a power supply?
2. List the types of filters.
3. Distinguish DC and AC load line.
4. Why h-parameters is called so?
5. What is a small signal model?
6. What is the need for MOSFET biasing?
7. Which class of Amplifier will have highest efficiency?
8. What is a power Amplifier?
9. List different types of coupling available to couple stages of Amplifier.
10. What is a Bootstrap Amplifier?

PART – B (5 x 12 = 60)

Answer All the Questions

11. (a) Draw the circuit diagram of a Bridge rectifier and explain its working in detail.
    (b) With neat diagram explain the operation of series voltage regulator in detail.

(or)

12. (a) Explain the working of CLC filter. Derive its ripple factor.
    (b) Write short notes on SMPS.

13. Draw the small signal equivalent circuit of common collector Amplifier. Derive the equation for gain, Input Impedance and Output Impedance.

(or)

14. (a) Draw and explain voltage divider biasing circuit meant for BJT.
    (b) Draw and explain the Input and output characteristics of CE Amplifier.

15. Draw and explain the small signal model of JFET and MOSFET.

(or)

16. (a) Draw and explain Source bias circuit for FET.
    (b) Draw a common drain amplifier. Explain any one of its application.

17. Draw and explain the operation of class A amplifier. Derive its efficiency with resistive and transformer coupled load.

(or)

18. (a) Draw and explain the operation of a typical class B amplifier.
    (b) Write short notes on Thermal stability.

19. With neat diagram explain
    (a) RC coupled amplifier
    (b) Transformer coupled amplifier.

(or)

20. (a) Draw and explain Low Frequency equivalent circuit of BJT.
    (b) Write short notes on Cascode amplifier.