Roll No.									

B.E. / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011

ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

THIRD SEMESTER

EC 272 – ELECTRONIC CIRCUITS - I

(REGULATIONS 2004)

Time: 3 Hours Max. Marks:100

Answer All Questions

PART-A (10 x 2 = 20 Marks)

1) Draw the Darlington type amplifier.
2) State reason for the improvement of CMRR in the amplifiers.
3) How MOSFET is used as an amplifier?
4) What is meant by biasing?
5) Briefly explain about the Miller effect.
6) How do you calculate the bandwidth of a signal?
7) Write the short notes on Heat sinks.
8) Give the comparison table between amplifier and power amplifier with suitable examples.
9) Write the short notes about L-C filters.
10) Define the term rectifier.

PART – B (5 x 16 = 80 Marks)

11) Explain in detail about DC analysis and voltage transfer curve of the CMOS inverter. (16)

12) (a)

(i) Explain in detail about the current steering circuit using MOSFET device. (8)

(ii) Explain in detail about the CMOS source follower circuit with neat diagrams. (8)

(or)

(b) Design a NMOS inverter using resistive load and briefly explain its working principle. Also give the complete analysis of noise margin. (16)

13) (a) Explain in detail about the high frequency analysis of BJT. (16)

(or)

(b) Explain in detail about the high frequency analysis of FET. (16)

14) (a) Analyze the BJT circuit in the following conditions:

(i) Class AB power amplifier. (8)

(ii) Class C power amplifier. (8)

(or)

(b)

(i) List out the characteristics of Power MOSFET. (8)

(ii) Explain reaction of the following situation:

"When MOSFET is being utilized as the output stage of Class AB amplifier" (8)

15) (a) Describe in detail about the design and working principle of SMPS circuit with neat diagrams . (16)

(or)

(b) Show in detail about the design of AC/DC power control circuit using SCR with neat diagrams . (16)