ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011

REGULATIONS : 2008

THIRD SEMESTER

080290011 - ELECTRONIC CIRCUITS I

(COMMON TO MEDICAL ELECTRONICS / ECE)

Time : 3 Hours **Max. Marks : 100**

PART - A

(10 x 2 = 20 Marks)

ANSWER ALL QUESTIONS

1 What is the need for biasing the transistor?

2 Mention the considerations for the selection of appropriate operating point for a FET amplifier

3 Define input impedance of a transistor circuit

4 Define CMRR of differential amplifier

5 Define bandwidth of amplifiers

6 Draw the effect of multistage on cutoff frequencies of FET amplifier at high frequencies

7 Define conversion efficiency of power amplifier

8 Define total harmonic distortion

9 What is meant by regulated power supply?

10 Mention the types of filters used in the power supplies.

PART- B

(5 x 16 = 80 Marks)

ANSWER ALL QUESTIONS

11 a. Draw and explain the transistor load lines, Q point and its variation with various factors.

(OR)

b. Explain the bias compensations using diode and thermistor compensators.

12 a. Obtain the expressions for gain, input impedance and output Impedance from small signal model of BJT common base amplifier

(OR)

b. Draw and explain the emitter coupled differential amplifier. Obtain relevant expressions.

13 a. Obtain the expressions for cutoff frequencies of BJT amplifier from the analysis of low frequency response

(OR)

b. With neat diagram explain the frequency response of multistage amplifier. Give the expressions for rise time and sag.

14 a. With neat diagram explain transformer coupled audio power amplifier. Explain the terms impedance matching and maximum power output.

(OR)

b. i) Explain the class B amplifier in detail (8)

ii) With neat diagram explain push-pull amplifier (8)

15 a. Draw and explain the circuit and operation of full wave bridge rectifier. Derive the expressions for output voltage and ripple factor.

(OR)

b. i) With block diagram explain the components of power supply (8)

ii) Explain LC filters in detail (8)

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