

C 58191

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Name .....

Reg. No. ....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2009**

**EC 04 405—ELECTRONIC CIRCUITS—II**

(2004 Admissions)

**Time : Three Hours**

**Maximum : 100 Marks**

*Answer all questions.*

**Part I**

- (a) Explain what is meant by CMRR at a differential amplifier.
- (b) Explain MOSFET differential amplifier at low frequency.
- (c) Explain the function of commutating capacitors in multivibrator.
- (d) Explain what is meant by blocking oscillator.
- (e) What is a sweep generator ? Explain.
- (f) Explain how the duty cycle of an astable multivibrator can be varied.
- (g) Write short note on class-D amplifier.
- (h) Explain what is meant by percentage harmonic distortion.

(8 × 5 = 40 marks)

**Part B**

- II. (a) Draw the circuit of two stage CMOS OP-AMP and explain its operation with frequency response characteristics curve.

*Or*

- (b) Draw the circuit of BJT differential amplifier with balanced load and explain its operation.

- III. (a) Explain the response of a low-pass RC circuit to

- (i) Step input.
- (ii) Square wave input and
- (iii) Ramp input.

*Or*

- (b) With neat circuit diagram explain the operation of a Schmitt trigger using transistor.

**Turn over**

- IV. (a) Draw the circuit diagram and waveforms of a collector-coupled monostable multivibrator using BJT and explain its operation.

Or

- (b) Explain the principles of operation of Bootstrap circuits.

- V. (a) (i) Prove that the maximum efficiency of a class-B amplifier is 78.5%.

(9 marks)

- (ii) Explain what is meant by wideband amplifier.

(6 marks)

Or

- (b) (i) Explain the compensation techniques used to improve the frequency response of the amplifier.

(8 marks)

- (ii) Explain why the gain of the amplifier decreases in the low frequency and high frequency range.

(7 marks)

[4 × 15 = 60 marks]