C 48870

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Name.................

Reg. No.................

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2008

EC 04 405—ELECTRONIC CIRCUITS—II

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

Part A

1. (a) Explain the non-ideal characteristics of the differential amplifier.

   (b) Explain the reason for fall in gain at lower and high frequency ranges in an amplifier.

   (c) What is meant by pulse transformer ? Explain.

   (d) Explain symmetrical and unsymmetrical triggering methods.

   (e) Explain the principles of Miller circuits.

   (f) Explain the principle of Bootstrapping.

   (g) What is harmonic distortion ? Explain how the output signal gets distorted due to the harmonic distortion.

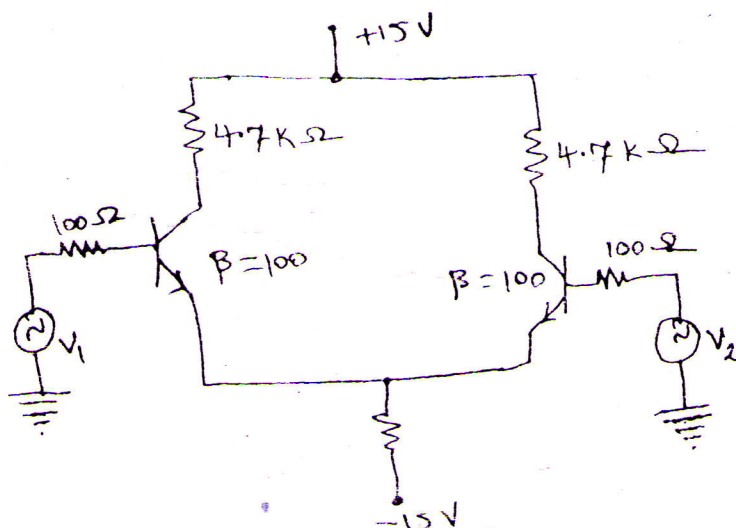   (h) Explain the advantages of class-B amplifier over class-A.

   (8 × 5 = 40 marks)

Part B

II. (a) Draw the circuit diagram for a differential amplifier using BJTs. Describe common mode of working. Derive expression for common mode gain and CMRR.

   Or

   (b) Calculate the common mode gain, CMRR and the operating point values for the circuit shown below :

Turn over

III. (a) Explain how RC circuit is used as (i) differentiator and (ii) integrator.

Or

(b) Draw the circuit diagram of blocking oscillator and explain its operation. State its applications.

IV. (a) Draw the circuit diagram of collector coupled astable multivibrator and explain its operation with neat waveforms. Obtain the expression for duty cycle.

Or

(b) Draw the circuit diagram of emitter coupled monostable multivibrator and explain its operation and desire expression for pulse width.

V. (a) (i) Show that the maximum efficiency of class-A amplifier is 50 %. (9 marks)

(ii) Explain about wideband amplifier. (6 marks)

Or

(b) (i) Explain the function of class-C and class-AB amplifier with neat waveforms representation. (9 marks)

(ii) Explain what is class-D amplifier. (6 marks)

[4 × 15 = 60 marks]