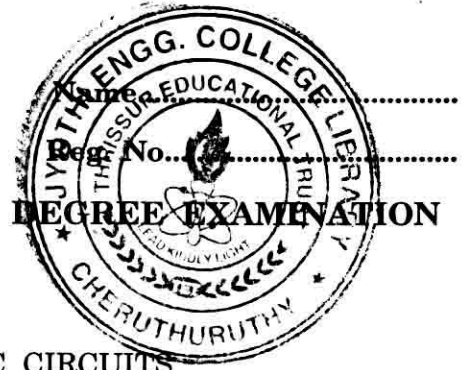


C 61582

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**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
APRIL 2014**

(2009 Scheme)

EC 09 403/PT EC 09 402—ELECTRONIC CIRCUITS

Time : Three Hours

Maximum : 70 Marks

Part A

- I. 1 Give the specifications of a resistor.
- 2 Why LC filters are used in rectifiers ?
- 3 What is the efficiency of a class B amplifier for a supply voltage of 15 V and with peak output voltage of 10 V ?
- 4 For a Colpitts oscillator, determine the value of f_0 , if $C_1 = C_2 = 10\text{pF}$ and $L = 2\text{mH}$.
- 5 What is meant by upper trip point and lower trip point in Schmitt trigger ?

(5 × 2 = 10 marks)

Part B

- II. 1 Derive the expression for rectification efficiency of Halfwave rectifier.
- 2 Explain the characteristics of CC amplifier.
- 3 An amplifier with $A_V = 500$, produces 5% harmonic distortion at full output. What value of β is required to reduce the distortion to 0.1% ? What is the overall gain ?
- 4 Explain the drain characteristics of JFET.
- 5 Explain the pulse response of BJT.
- 6 Explain the principle of operation of a sweep circuit.

(4 × 5 = 20 marks)

Part C

- III. 1 For a common base amplifier derive the expressions for Input resistance, output resistance, current gain and voltage gain using h parameters.

Or

- 2 Explain the operation semispan transistor feedback voltage regulator. How short circuit protection is done for this circuit ?

Turn over

3. (a) Explain the frequency response characteristics of CE amplifier.
(b) Explain the operation of current shunt feedback configuration.

(6 + 4 = 10 marks)

Or

- 4 Discuss the working of class C and class S power amplifiers.
5 Describe the construction and working of JFET.

Or

- 6 Discuss briefly the construction and characteristics of UJT.
7 Discuss about emitter coupled astable multivibrator.

Or

- 8 Discuss the operation of BJT switch with capacitive load and collector coupled monoshot.

(4 × 10 = 40 marks)