C 80702 (Pages : 2) Name.....

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# FOURTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, APRIL 2015

AI 09 405 – ELECTRONIC CIRCUITS – II

Time : Three Hours Maximum : 70 Marks

## Part A

*Answer* **all** *questions.*

1. Why trigger pulses are essential for the operation of bistable multivibrator?
2. Draw the input and output waveforms of a low pass RC circuit to a pulse input.
3. What is the need for low pass filter in PLL?
4. What is the effect of negative feedback on gain in an amplifier?
5. What is meant by push pull amplifier?

(5 × 2 = 10 marks)

## Part B

*Answer any* **four** *questions.*

1. Design a Schmitt trigger circuit for UTP = +5V, LTP = –5V.
2. Explain the response of lowpass filter circuit for pulse input.
3. Explain any *two* applications of PLL.
4. Derive the gain and input impedance of a current series feedback amplifier.
5. Explain crystal oscillator.
6. What is synchronous tuning? Derive an expression for bandwidth of an *n*-stage synchronously tuned amplifier?

(4 × 5 = 20 marks)

## Part C

*Answer* **all** *questions.*

1. (a) Explain different sweep circuits using BJT.

*Or*

(b) Explain the response of a second order system to step, pulse and ramp inputs.

2. (a) Explain the working of an astable circuit using 555. Draw its internal diagram.

*Or*

(b) Explain how FM detection can be achieved using PLL.

**Turn over**

3. (a) Analyse the effect of gain, input impedance and output impedance of current shunt feedback amplifier.

*Or*

(b) Explain Hartley oscillator. Derive its frequency of oscillation.

4. (a) Explain how the position of Q point varies in case of class A,B,C operation.

*Or*

(b) What are the various types of distortion present in power amplifiers? Discuss a method of determining the total harmonic distortion of a power amplifier.

(4 × 10 = 40 marks)