C 31835 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION JUNE 2007

CS 04 406—ELECTRONIC CIRCUITS AND SYSTEMS

(2004 admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions of I. Each question carries 5 marks.*
Answer **one** *question each of II–V. Each question carries 15 marks.*

I. 1 Why is Schmitt trigger called analog to digital converter ? Give reasons.

2 Draw the basic Miller sweep generator and suggest ways to improve its linearity.

3 Draw the equivalent circuit of a diode and why ideal switch is not possible when diode is used.

4 Draw a MOS flip-flop and explain its truth table.

5 How can 16 × 1 memory be expanded to 64 × 1 ? Explain with diagram.

6 What is a timing circuit ? What is its applications ?

7 What are the various internal noise enter in a modulation system ? How are they taken care of ?

8 How is EM waves radiated ? Describe.

(8 × 5 = 40 marks)

II. 1 Why is clamping called DC restorer circuit ? Illustrate your point with an example.

Or

2 Draw an astable multivibrator built using a pair of BJTs. Explain its operation giving waveforms at its collectors and bases. How can pulse be produced from this circuit ?

(15 marks)

III. 1 What are the various gates of a logic family ? Give their symbols and truth tables. How can the tables be verified ?

Or

2 Draw a ECL NOR gate and explain its operation. How can this be used as a OR gate without adding extra components ?

(15 marks)

IV. 1 What are the advantages of magnetic bubble memories ? Explain with a circuit.

Or

2 Draw a 8-bit Successive Approximation based ADC and explain why the final state is reached in least time.

(15 marks)

Turn over

V. 1 Draw the reactance tube modulator for FM transmission and explain.

Or

2 Draw the block diagram of a superhet receiver and explain the importance of each block.

(15 marks)

[4 × 15 = 60 marks]