D 33158 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, FEBRUARY 2013

EE 04 404 – ELECTRONICS – II

(2004 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. (a) Explain the potential applications of crystal oscillator.

(b) Explain the concept and types of feedback in detail.

(c) Explain the properties of practical op-amp circuits.

(d) Explain about comparator IC LM 311 and its applications.

(e) Define and explain :

(i) Lock Range.

(ii) Capture Range.

(f) Define and explain :

(i) CMRR.

(ii) SURR.

(iii) Slew rate.

(g) Explain the fundamentals of DAC and ADC.

(h) Explain the advantages and applications of Linear Wave shaping circuits with examples.

(8 × 5 = 40 marks)

II. (a) Draw a BJT Wein-bridge Oscillator. Explain its principle of operation in detail.

Or

(b) Draw a BJT current shunt feedback circuit and explain. Derive expressions for A_I and A_V.

III. (a) Draw Op-amp V–I and I–V converters. Explain their principles in detail.

Or

(b) (i) Explain about regenerative comparator circuit using Op-amp.

(ii) Explain the principle of VCO circuit with a neat diagram.

(7 + 8 = 15 marks)

Turn over

IV. (a) Draw Op-amp Astable and Monostable multivibrator circuits. Explain their principle of operation.

Or

(b) (i) Explain the potential applications of 555 Timer.

(ii) Explain the gain adjustment in Butterwort LP filters.

(7 + 8 = 15 marks)

V. (a) (i) Explain Op-amp sample and hold amplifier with a neat circuit diagram.

(ii) Give an account on 'Flash ADC'.

(7 + 8 = 15 marks)

Or

(b) (i) Explain the principle of successive approximation ADC, with a neat diagram.

(ii) Write short notes on current switching DAC.

(7 + 8 = 15 marks)

[4 × 15 = 60 marks]