

Exam.Code:0928

Sub. Code: 6585

2053

B.E. (Electronics and Communication Engineering)

Fourth Semester

EC-406: Analog Electronic Circuits

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Draw the circuit with input and output waveform of negative biased clipper.
- b) Explain the concept of negative feedback in amplifiers?
- c) How Slew rate influence the performance of an opamp?
- d) Explain the gain of two stage amplifier?
- e) What are the properties of an ideal opamp? (5x2)

UNIT - I

II. a) Explain the types of coupling in cascaded amplifiers and what is the role of capacitors in amplifiers?

b) The overall gain of multistage amplifier is 100. When negative feedback is applied the Gain reduces to 10. Find the fraction of the output that is feedback to input.

c) Draw the pi- equivalent model for a common emitter and derive for voltage gain, current gain. (5,2,3)

III. a) State and prove Millers theorem.

b) Draw the schematic of an amplifier with voltage series feedback and derive expression for closed loop voltage gain. (2x5)

IV. Draw the cascode amplifier circuit and derive expressions for voltage gain current gain, input impedance and output impedance. (10)

UNIT - II

V. a) Draw the circuit diagram of a Schmitt trigger. Why it is called as a regenerative comparator.

b) Design a diode clipper circuit with sinusoidal input voltage of 40 V peak to peak and output voltage of +25 V (single peak). Use appropriate bias voltage (2x5)

P.T.O.

(2)

- VI. a) Explain R-2R ladder network of DAC with suitable circuit diagram & expression and list its merits.
b) Explain the operation of based crystal oscillator. Mention its advantage. (2x5)
- VII. a) Illustrate the working of successive approximation type A/D converter with a neat diagram.
b) Draw the circuit diagram of a Colpitts Oscillator and explain the principle of operation. (2x5)

x-x-x