[BATCH: 2013 ONWARDS]

(Please write your Exam Roll No.) Exam Roll No. .....

END TERM EXAMINATION

FOURTH SEMESTER [B.TECH] MAY-JUNE 2017

Paper Code: ETEC-204 **Subject: Analog Electronics-II**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt any five questions including Q. no.1 which is compulsory.

Q1 (a) Explain Op-Amp as Voltage Follower. (5)
(b) Discuss Push-Pull power Amplifier (5)
(c) Explain with a diagram how a band pass filter be realized. (5)
(d) Explain working of a Colpitts Oscillator and find its frequency of Oscillation. (5)
(e) Draw and explain the transfer characteristics of OTA. (5)

Q2 Explain the working of a basic integrator using Op-Amp and the problems Associated with it using bode plot. How it is resolved using a Lossy Integrator. (12.5)

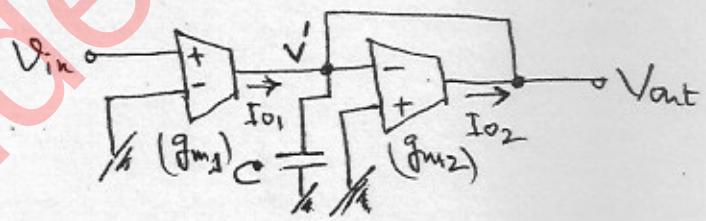
Q3 (a) Using comparator, how do you achieve Zero Crossing Detector? (6)
(b) Explain input Bias current and how it is compensated using R_{comp}. (6.5)

Q4 (a) How do you achieve Monostable Multivibration using Op-Amp? Determine it's time period. (6)
(b) What are Precision Diodes? How do you obtain full wave rectification using Op-Amp with diodes? (6.5)

Q5 (a) Explain Butterworth and Chebyshev approximate filter functions. (3x2=6)

(b) Explain block diagram of a 555 Timer. (6.5)

Q6 (a) What is VCO? How it works in a PLL? (6)
(b) By finding its transfer function, prove that the circuit below is a LPF. Determine its bandwidth. (6.5)



Q7 (a) What is ideal Op-Amp? Discuss the characteristics of ideal Op-Amp. (6)

(b) Draw the circuit of Integrator and explain the operation. (6.5)

Q8 Write short notes on the following:- (6)
(a) OTA (6.5)
(b) Schmitt Trigger

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