B.E/B.Tech DEGREE EXAMINATION, APRIL/MAY 2008
Fourth Semester
(Regulation 2004)
Electronics and communication Engineering
EC1251-ELECTRONIC CIRCUITS--- II
(Common to B.E (Part-time) Third Semester Regulation 2005)
Time:Three hours Maximum:100 marks
Answer ALL questions
PART A –(10*2=20marks)

1. An amplifier with open loop voltage gain Av =1000±100 is available. It is required to have an amplifier whose voltage gain varies by no more than ±0.1% Find the reverse transmission factor ß.
2. Draw the schematic circuit of trans resistance amplifier. Specify conditions for Ri and Ro.
3. What are the advantages and disadvantages of RC phase shift oscillators?
4. Give the expressions for fs and fp of crystal oscillator.
5. Where is the Q point placed in a class C type amplifier ? What are its applications?
6. What is neutralization?
7. State relation between rise time and fH. Also sketch response of low pass RC filter for pulse input.
8. State the role of commutating capacitors in Bistable multivibrator.
9. List the different methods available for generation of Ramp waveforms.
10. What is a blocking oscillator? Give one application.

PART B–(5*16=80marks)

11.(a)(i) Discuss the classification of feedback amplifiers with schematic (topology). How is impedance level modified in each type? (8)
(ii) Derive expression for Avf with positive feedback and negative feedback and state condition for stability in negative feedback amplifiers. (8)
Or

(b)(i) An RC coupled amplifier has a voltage gain of 1000, f1=50Hz, f2=200kHz and a distortion of 5% with feed back. Find Avf, BWf when ß= 0.01 is applied. (5)
(ii) Elaborate the method of identifying feedback topology . (6)
(iii) With example prove that negative feedback increases stability. (5)
12. (a)(i) Draw the RC phase shift oscillator. Explain its operation and derive condition for sustained oscillation and frequency. (12)
(ii) Calculate the inductance value to produce 734.5 kHz frequency of oscillation in Clapp oscillator having C1=0.1µF , C2=1µF, C3=100µF. (4)
Or
(b)(i) Explain the working of Miller type oscillator with circuit. Give two applications. (10)
(ii) Give reasons why quartz crystal is used in crystal oscillator. State its advantages and applications. (6)
13. (a)(i) Draw the circuit of class C tuned amplifier and explain its operation

with relevant waveforms. (8)
(ii) Discuss the Hazeltine method of neutralization with circuit. (8)
Or
(b)(i) Discuss instability of tuned amplifier. (4)
(ii) Explain the working of Emitter coupled Astable multivibrator. (12)
14. (a)(i) Draw the circuit of differentiator and explain the generation of narrow spikes from square wave. What are its applications? (8)
(ii) With circuit discuss Schmitt Trigger operation. Obtain expression for UTP and LTP. (8)
Or
(b)(i) Discuss the working of a self biased bistable multivibrator. (8)
(ii) Explain the different methods of triggering monostable multivibrators. (8)
15. (a)(i) Explain
(1) Miller time base generator.
(2) Triggered Blocking oscillator.
Or
(b)(i) For a bootstrap sweep circuit show that ?s = (1-A) Vo (Ts) /Av and

Vo(t) = Av /R1C? dt (10)
(ii) Compare the diode and RC network type of Astable Blocking Oscillators. (6)