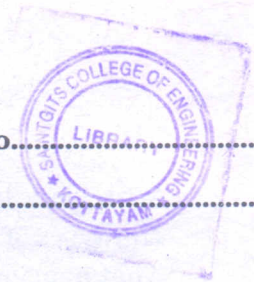


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Reg. No.....

Name.....



B.TECH. DEGREE EXAMINATION, MAY 2015

Fourth Semester

Branch : Electronics and Communication/Applied Electronics and Instrumentation Electronics and Instrumentations Engineering

ELECTRONIC CIRCUITS—II (L, A, S)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Draw the r -parameter equivalent circuit of a CE transistor and define the parameters.
2. Three stages of RC coupled amplifiers, each with lower cut-off frequency of 100 Hz are cascaded calculate the resultant lower cut-off frequency of the cascaded combination.
3. State the four properties of Emitter follower.
4. Starting from fundamentals, derive equation to prove that the gain of the amplifier with negative feedback is independent of the active device parameters.
5. State and explain piezoelectric effect as used in crystal oscillators.
6. Draw the circuit of a tuned collector oscillator.
7. Compare and contrast the base and collector triggering used in a monostable multivibrator..
8. List the applications of schmitt trigger.
9. What is harmonic distortion ? Give its reason.
10. With a block diagram, describe how a fictious amplifier can be used to get constant current charging in a linear sweep generator.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each full question carries 12 marks.

11. Draw the circuit of a two stage RC coupled amplifier and design it for a voltage gain of 800.

Or

12. With neat circuit diagrams, describe the single and double tuned amplifiers and discuss their applications.

Turn over

13. With block diagrams, describe which of the basic gains is independently being controlled in the four types of topologies of the negative feedback amplifiers? With the help of expressions, discuss what happens to the input resistance in each case.

Or

14. With neat circuit diagram, explain the advantages of a darlington emitter follower. Derive equations for its R_i , A_v and A_i ?
15. Draw the circuit diagram of RC phase-shift oscillator, using BJT. Obtain its h-parameter equivalent circuit. Derive condition for oscillations.

Or

16. Draw and explain the circuits of :
- (i) Wienbridge oscillator and
 - (ii) Crystal oscillator assembled using BJT.
17. Describe the working of a self biased transistorised monostable multivibrator with base triggering. Derive expression for its pulse width.

Or

18. Describe the working of a self biased transistorised schmitt trigger. Design the circuit for $LTP = +2V$, $UTP = +4V$, and draw the waveforms.
19. Explain the working of a class B push pull complementary symmetry power amplifier with its transfer characteristics. Derive expression for its efficiency.

Or

20. With circuit diagrams and waveforms, explain how linear sweep voltage is obtained from a Bootstrap sweep generator. Derive the expression for its sweep period.

(5 × 12 = 60 marks)

