

No#1 Website for Andhra University Students

[06 – 2203]

III/IV B.E. DEGREE EXAMINATION.

Second Semester

Electrical and Electronics Engineering

ANALOG ELECTRONIC CIRCUITS

(Common with Electronics and Communication
Engineering and Electronics and Instrumentation
Engineering and M.S. EEE)

(W.e.f admitted batch of 1999–2000 and after batches)

Time : Three hours

Maximum : 70 marks

Question 1 is compulsory.

Answer any other FOUR questions.

All questions carry equal marks. ($7 \times 2 = 14$)

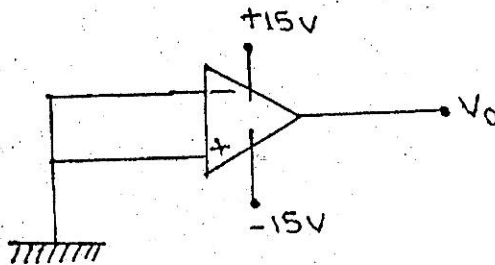
1. (a) What is the Bandwidth product of the two stage RC coupled amplifier?
- (b) What are the advantages of -ve feedback amplifier?
- (c) Explain LC tuned amplifier.
- (d) What are the advantages and disadvantages of wein bridge oscillator?

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8. (a) Explain logarithmic amplifier and differential with neat diagrams. (6)
- (b) Explain Hartley oscillator and write its advantages and disadvantages and what is the difference between Hartley oscillator and Clapp oscillator. (8)
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- (e) What is the difference between single tuned and double tuned amplifier?
 - (f) Define CMRR and slew-rate.
 - (g) What is the frequency and amplitude stability of oscillators?
- 2.
- (a) Explain the low frequency and high frequency response of single stage RC amplifier with suitable analysis. (7)
 - (b) Explain the multistage RC coupled amplifier and write its frequency response, advantages and disadvantages. (7)
- 3.
- (a) Write the topologies of feedback amplifier and explain correct series feedback amplifier with suitable analysis. (7)
 - (b) An amplifier has an open-loop gain of 100, an input impedance of $1\text{ k}\Omega$ and an output impedance of $100\ \Omega$. A feedback network with a feedback factor of 0.99 is connected to the amplifier in a voltage series feedback mode. What is the new input and output impedances? (7)
- 4.
- (a) Explain RC phase shift oscillator with suitable analysis. (7)
 - (b) Explain the crystal oscillator and write its advantages. (7)

5. (a) Explain class A, class B, class C power amplifier with suitable frequency efficiency. (7)
(b) Explain class AB push-pull power amplifier and write the push-pull configuration of class AB. (7)
6. (a) Explain double tuned amplifier with neat circuit diagram. (7)
(b) Explain stagger tuned amplifier write its advantages. (7)
7. (a) (i) Explain the parameters of op-amp. (5)
(ii) If the op-amp in the figure has an input offset voltage of 5 mV and open loop voltage gain of 10,000 what is V_o . (3)



- (b) Explain Normalized transfer characteristics of a differential amplifier. (6)