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Roll No.

SEMESTER- THIRD

B. Tech. (Evening) ECE

Supplementary examination

February-2019

Paper Code: CEC-201, Course Title: Analog Electronics-II

Time: 3:00 Hours

Max. Marks : 40

Note : Answer all question by Selecting any two parts from each questions.
All questions carry equal marks.
Assume suitable missing data, if any.

Q.1[a] Construct the Bode plots for the system gain given by

$$A_v(s) = \frac{100s(1 + s/20)}{(1 + s/1000)(1 + s/10^6)}$$

[b] Why is the frequency response of an amplifier so important?
Explain the meaning of upper half power frequency f_h .

[c] Find the frequency response of a common emitter amplifier.

Q.2[a] Find the high frequency response of a common source amplifier. .

[b] What is meant by open circuit time constant a_1 ? It is well known that $a_1 = \text{sum of } C_i R_{i0}$ where R_{i0} is called zero frequency resistance. Why is it so called? Explain the method to compute R_{i1} and R_{i2} ?

[c] For the CE-CB cascaded amplifier, draw the equivalent circuit at high frequencies. Also explain how power frequency of cascaded stage is smaller than either of the stage?

Q.3[a] Represent a feedback amplifier in block diagram. What are different types of feedback?

[b] Derive the effect of negative feedback on amplifier gain and Also Compute A_f if $A = 1000$, $\beta = 0.001$.

[c] Determine, R_{if} and R_{of} for the a shunt-shunt feedback amplifier.

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- Q.4[a] Draw the circuit for wein bridge oscillator and find the frequency of oscillations and condition for oscillations.
- [b] With the help of suitable diagram explain a Clapp oscillator.
- [c] Write short note on evolution of integrated circuits.

- Q.5[a] List the difference between power amplifiers and voltage amplifiers. Give different classification of power amplifier?
- [b] What do you mean by a push-pull amplifier? White the advantages of push pull amplifiers.
- [c] Draw and explain the complete steps of PMOS fabrication.
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