

Total No. of Questions : 10] [Total No. of Printed Pages : 3

Roll No.

EC-404

B. E. (Fourth Semester)
EXAMINATION, June, 2012

(Grading/Non-Grading)

(Electronics & Communication Engg. Branch)

ELECTRONIC CIRCUITS

(TC-404)

Time : Three Hours

Maximum Marks : $\begin{cases} GS : 70 \\ NGS : 100 \end{cases}$

Note : Attempt *one* question from each Unit. All questions carry equal marks.

Unit - I

1. (a) What is biasing technique ? Explain self-biasing technique with derivation.
- (b) Derive expression for A_i , A_v , Z_i and Z_o with CE configuration of BJT using h -parameter.

Or

2. (a) Discuss simplified model for CB configuration using h -parameter.
- (b) Explain Q-point and Miller capacitance with effects on voltage gain.

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Unit - II

3. (a) Define the following :-

- (i) Stability
- (ii) Distortion
- (iii) Bandwidth
- (iv) Gain
- (v) Negative resistance

(b) Explain positive and negative feedback with advantages and disadvantages.

Or

4. (a) Explain RC phase shift oscillator with neat diagram, working and uses.
- (b) Discuss tunnel diode and UJT.

Unit - III

5. (a) Explain tuned amplifier with its applications.
- (b) Describe push pull amplifier.

Or

6. (a) What is power amplifier ? Explain Class A and AB power amplifier.
- (b) Write a note on transformer coupled and complementary symmetry amplifier.

Unit - IV

7. (a) Discuss performance analysis of RC and direct coupled amplifier.
- (b) Describe cascade amplifier with circuit diagram and advantages.

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Or

8. (a) Discuss the following terms :
- (i) Differential and common mode gain
 - (ii) CMRR
 - (iii) Current mirror
- (b) Explain Bootstrapping technique and level shifter.

Unit - V

9. (a) Discuss ideal and practical characteristics of OP-AMP.
- (b) Explain Schmitt trigger and integrator with proper diagram.

Or

10. (a) Describe inverting and non-inverting amplifier.
- (b) Write notes on the following :
- (i) Instrumentation amplifier
 - (ii) Precision rectifier