

FACULTY OF ENGINEERING

B.E. 2/4 (ECE) II – Semester (New) (Main) Examination, May / June 2016

Subject: Analog Electronic Circuits

Time: 3 Hours

Max.Marks: 75

Note: Answer all questions from Part A. Answer any five questions from Part B.

PART – A (25 Marks)

- 1 Write briefly about classification of amplifiers?
- 2 What are the advantages and disadvantages of transformer coupled amplifier?
- 3 What are the characteristics of negative feedback in amplifiers?
- 4 Write about stability of feedback amplifiers?
- 5 Compare LC and RC oscillators?
- 6 Derive relation between series and parallel resonant frequency of the crystal?
- 7 What is cross-over distortion in power amplifiers-Explain?
- 8 Explain class-D operation in power amplifier?
- 9 What is a staggered tuned amplifier? Write its advantages?
- 10 What are the limitations of zener voltage regulator?

PART – B (5x10 Marks)

- 11 Draw the circuit of transformer coupled FET amplifier and derive expression of A_v at low and high frequencies? Show that frequency response is poor at high frequency?
- 12 For the amplifier circuit shown in fig(a), find A_{vst} , A_{ist} and R_{if} ? Assume suitable data required.

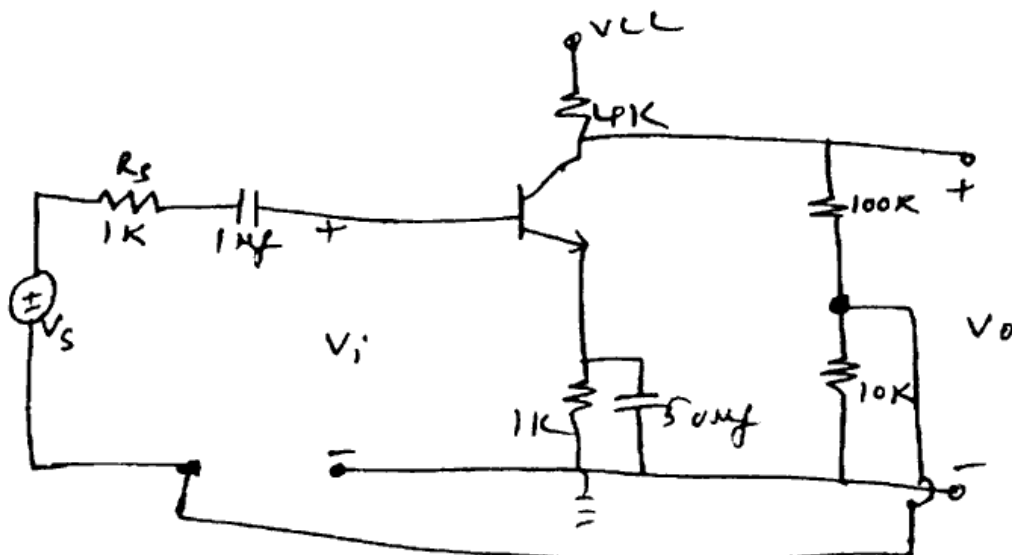


Fig. (a)

- 13 Derive expressions for frequency of oscillation and condition of oscillations for a RC phase shift BJT oscillator?
- 14 Draw the circuit of transformer coupled class-A power amplifier and explain its operation? Find its efficiency?
15. Derive expressions for gain at resonance and bandwidth for a single tuned RF voltage amplifier?
- 16 a) For a RC coupled BJT amplifier derive expressions of A_v at mid and high frequency (consider single stage)?
b) Evaluate the effect of $-ve$ feedback on input and output impedances of voltage shunt amplifier?
- 17 Write short notes on-
 - a) Transistorised shunt regulator
 - b) Stability in RF amplifiers
 - c) Push-pull amplifier.

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