FACULTY OF ENGINEERING
B.E. 2/4 (EE/Inst.) II - Semester (Main) Examination, June 2014

Subject: Electronic Engineering - II

Time : 3 Hours   Max. Marks: 75
Note: Answer all questions of Part - A and answer any five questions from Part-B.
PART – A (25 Marks)

1   Derive the expression for gain with feedback.   (3)
2   Draw the equivalent circuit for ideal voltage amplifier.   (2)
3   What is an oscillator? Classify different types of oscillator.   (3)
4   Draw the circuit of Colpitt's oscillator.   (2)
5   Define Ac, Ad and CMRR.   (3)
6   Give the applications of differential amplifier.   (2)
7   Compare class A, B & C power amplifiers based on efficiency.   (3)
8   What is the difference between a voltage amplifier and a power amplifier? Compare.   (3)
9   What is the significance of connecting a resistor across diode in clamping circuit?   (2)
10 What is two level clipper?   (2)

PART – B (50 Marks)

11 (a) Draw the equivalent circuit of current series feedback amplifier and derive the
         expressions for R_{if} and R_{of}.   (6)
    (b) Based on sampling and mixing classify feedback amplifiers and draw their block
         diagram.   (4)
12 (a) Draw the circuit of Hartley oscillator and obtain the expression for its frequency of
         oscillations.   (6)
    (b) The parameters of a crystal oscillator equivalent circuit are L_2=0.6H, C_s=0.08pf,
         R_s = 5k and C_p = 1.0pf. Determine series and parallel resonance frequencies.   (4)
13 (a) A differential amplifier has V_{s1} = 10mV, V_{s2} = 9mv. If it has Ad = 60 dB and CMRR =
         80dB. Find its output voltage.   (5)
    (b) What are the basic configurations of differential amplifier? Explain.   (5)
14 (a) What is harmonic distortion in power amplifiers? Describe 3-point method of
         computing total harmonic distortion.   (5)
    (b) Draw and explain class-A transformer coupled power amplifier.   (5)
15 (a) Draw and explain negative peak clamper along with its input and output waveforms.   (5)
    (b) Draw the O/P response of given RC circuit for   (5)
         (i)   RC >> T   (ii) RC << T
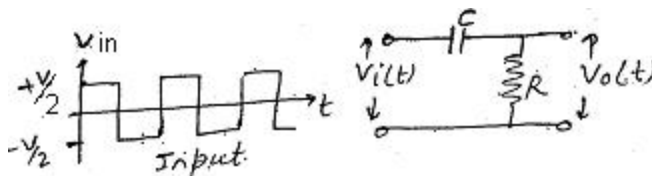
16 (a) Draw the block diagram of negative feedback amplifier.   (3)
    (b) Distinguish between amplifier and oscillator circuits.   (2)
    (c) Draw and explain complementary – symmetry push pull class-B power amplifier.   (6)
17 Write short notes on the following: (10)
    (a) Frequency stability in oscillators
    (b) RC differentiator and integrator circuits

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