Roll No.								

B.E./B.TECH (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011

ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

FOURTH SEMESTER

(REGULATION 2004)

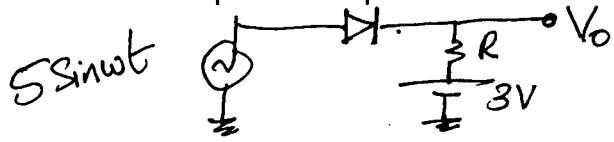
EC 282 – ELECTRONIC CIRCUITS-II

Time: 3 Hours Max.Marks: 100

Answer ALL Questions

PART – A (10 x 2 = 20 Marks)

1. In a feedback amplifier A = 100 and $\beta = 0.1$, calculate A_f.
2. Mention the methods of compensation employed in feedback amplifiers to achieve stability.
3. In a RC Wein Bridge oscillator R = 10k and f_0 = 5 KHz. Calculate capacitance.
4. Draw the circuit of Ring oscillator.
5. What is synchronous timing.?
6. Write any two uses of transformer in tuned amplifier.?
7. Define rise time.
8. Draw the input and output of the circuit shown.



9. What is advantage of Power MOSFET over Power BJT.
10. Draw the circuit of Buck converter.

PART – B (5 x 16 = 80 Marks)

11.(i) Draw a tuned amplifier and its frequency response with equivalent circuit, derive for A(f). **(10)**

(ii) Explain one method of Neutralization. **(6)**

12.(a) With circuit diagram explain Boost converter. **(16)**

OR

12.(b)(i) Describe the V-I characteristics of IGBT. **(8)**

(ii) How AC voltage is controlled using SCR. **(8)**

13.(a) Explain Monostable Multivibraor using BJT and derive for T_{on} period. **(16)**

OR

13.(b)(i) Briefly explain the working of RC circuit as integrator. Draw the response of the integration for a square wave input. **(8)**

(ii) Design a BJT Astable Multivibrator for V_{CC} = 20V; h_{fe} = 100 ; I_{csat} = 2mA ; f = 5 KHz ; D = 50%. **(8)**

14.(a) Explain with circuit Hartley oscillator. Derive its frequency of oscillation. **(16)**

OR

14.(b) Define Barkhausen conditions for oscillation. Explain RC phase shift oscillation and derive for its frequency of oscillation.

15.(a) With topological diagram of voltage shunt feedback, derive for R_{mf}, R_{if} and R_{of}. **(16)**

OR

15.(b)(i) Prove $A_{vf} = A_v / 1 + A_v\beta$ with an example. (6)

(ii) Prove that $B\omega_f = B\omega (1+A\beta)$ in any feedback amplifier. (10)
