

Code: R7311004

R7

B.Tech III Year I Semester (R07) Supplementary Examinations, May 2013

ELECTRONIC CIRCUIT ANALYSIS
(Electronics and Instrumentation Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Draw the circuit diagram of a CB amplifier along with its equivalent circuit. Derive expressions for A_V , A_1 , R_i and R_o .
(b) Compare CE, CC and CB amplifier in all aspects.
- 2 Describe the features, functioning and applications of the following amplifiers:
 - (a) CE – CB cascade.
 - (b) CE – CC cascade.
 - (c) CE – CE cascade.
- 3 Given the following transmission measurements made at $I_c = 15 \text{ mA}$, $V_{CE} = 10 \text{ V}$ and at room temperature: $h_{ie} = 500 \Omega$, $h_{fc} = 90$, $A_{ie} = 10$ at 10 MHz , $C_{ob} = 3 \text{ pf}$.
Find f_T , f_B , C_e , $r_{b'e}$ and $r_{bb'}$. also calculate the values of all hybrid π parameter.
- 4 Briefly explain the following:
 - (a) Adjustable 3-terminal IC voltage regulators.
 - (b) SMPS.
- 5 (a) Explain about stages tuning. What are its advantages?
(b) Write short notes on double tuned amplifier.
- 6 Write short notes on the following:
 - (a) Switching regulator configuration.
 - (b) UPS.
- 7 (a) Draw and explain the operation of class - A power amplifier. Show that the conversion efficiency is 25%.
(b) Discuss in detail about the effect of cross-over distortion. How do you avoid the cross-over distortion in power amplifier circuit?
- 8 (a) Compare single tuned inductively coupled amplifier with capacitively coupled single tuned amplifier.
(b) Draw and explain the operation of CE double tuned amplifier.
