

**B.TECH. DEGREE EXAMINATION NOVEMBER 2011****Third Semester****Branch—Electrical and Electronics Engineering****EE 010 305—ELECTRONICS CIRCUITS (EE)****(Regular)****Time : Three Hours****Maximum : 100 Marks***Answer all questions.***Part A***Each question carries 3 marks.*

1. Plot and explain the output characteristics of BJT in common emitter configuration.
2. Name and mathematically express different h-parameters of a BJT in CE model.
3. Explain the drawbacks of a class A power amplifier.
4. What is feedback in amplifiers ? Classify List advantages and disadvantages of both.
5. What is regulation ? What is the need of voltage regulation ?

**(5 × 3 = 15 marks)****Part B***Each question carries 5 marks.*

6. Sketch a combination clipper circuit. Explain its working.
7. What are the advantages of cascading amplifier stages ? If each of two cascades stages has a voltage gain of 30, find the overall gain of a two stage amplifier.
8. What is a tuned amplifier ? Classify. Sketch frequency responses of both. Mention uses of tuned amplifiers.
9. What are crystal oscillators ? Explain its working principle. Explain any one crystal oscillator. List advantages of using crystal oscillators.
10. With diagram, explain the working of a Miller sweep generator circuit.

**(5 × 5 = 25 marks)****Part C***Each full question carries 12 marks.*

11. (a) Explain the stability factor and thermal runaway in transistor biasing.
- (b) With diagram, explain the working of collector to base bias transistor circuit in common emitter configuration. Discuss its merits and demerits over other biasing schemes.

*Or***Turn over**