

B.Tech. Degree III Semester Examination November 2013

CS/EB/EE 1306 ELECTRONIC DEVICES AND CIRCUITS (2012 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. (a) Explain the use of bleeder resistor in filter circuits.
- (b) Draw and explain the characteristics of UJT.
- (c) Explain fixed biasing circuit briefly with a neat sketch.
- (d) Explain the concept of 3-dB bandwidth.
- (e) Differentiate between voltage and power amplifier.
- (f) Explain Bark Hausen criteria.
- (g) Briefly explain how transistor can be operated as a switch.
- (h) Draw the circuit of a positive biased clipper and briefly explain the working.

PART B

(4 × 15 = 60)

- II. (a) Draw the block diagram of a regulated DC power supply and explain the blocks showing waveforms associated with each block. (10)
 - (b) Explain TuF (5)
- OR**
- III. (a) Differentiate between zener and avalanche break down. (5)
 - (b) Explain the working of a simple series voltage regulator. (5)
 - (c) Explain the principle of operation of LED. (5)
- IV. (a) Explain h-parameter in detail. (8)
 - (b) Explain the concept of DC and AC load lines. (7)
- OR**
- V. (a) Explain the reasons for the fall in gain at low and high frequencies in an RC coupled amplifier. (10)
 - (b) Briefly explain the self biasing technique in FET with a neat circuit diagram. (5)
- VI. (a) What is cross over distortion? How can it be rectified? (8)
 - (b) Compare the efficiency of class A, B, AB and C amplifiers and give justification. (7)
- OR**
- VII. (a) What are the advantages of negative feed back? (10)
 - (b) Explain any one oscillator using inductive feed back. (5)
- VIII. (a) Explain the working of a low pass filter with a neat sketch. (5)
 - (b) Draw and explain the concept of bootstrapping using necessary circuits. (10)
- OR**
- IX. Explain the working of an astable multivibrator using BJT and list few application of AMV. (15)