

**B.Tech. (Common for all Branches) 2nd Semester****F. Scheme Examination, May-2015****BASIC OF ELECTRONICS****Paper-ECE-101-F***Time allowed : 3 hours]**[Maximum marks : 100**Note : Attempt one question from each section and Question No. 1 is compulsory.*

1. (a) State drift and diffusion currents.
- (b) Why LED's emit light of different colours ?
- (c) Discuss Barkhausen criteria for oscillations ?
- (d) Convert  $(236)_8 = ( \quad )_{16}$  20

**Section-A**

2. (a) Discuss block diagram of op-amp. 10
- (b) Give characteristics of an op-amp. 10
3. (a) Explain working of SMPS. 10
- (b) Discuss voltage regulators. 10

**Section-B**

4. What are universal gates ? Explain. 20
5. (a) Explain Cathode Ray Oscilloscope and give its applications. 10
- (b) Differentiate combinational and sequential circuits. 10

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**Section-C**

6. (a) Explain seven segment display with diagram. 10  
(b) Discuss Dot-matrix display. 10
7. What is LCD's ? Give its different types and also give advantages and disadvantages of LCD's. 20

**Section-D**

8. Draw and explain frequency response curve and working of RC-coupled amplifier. 20
9. (a) What is feedback amplifier ? Discuss the effect of -ve feedback on amplifier on gain and bandwidth. 10  
(b) Explain RC-phase shift oscillator. 10