

**24004**

**B. Tech. 2nd Semester F. Scheme Examination,  
May-2014**

**BASIC ELECTRONICS**

**Paper-ECE-101-F**

**Common for all branches**

*Time allowed : 3 hours ] [Maximum marks : 100*

*Note : Q. No. 1 is compulsory, students have to attempt five questions in total by taking one question from each section.*

1. (a) What is zener breakdown? 5×4
- (b) What is Barkhausen criteria for sustained oscillations ?
- (c) Convert  
 $(2476)_8 = (?)_{16}$
- (d) Give advantages of LED display.

**Section-A**

2. (a) Discuss characteristics of PN Junction diodes and compare it with an ideal diode characteristics. 10
- (b) Discuss drift and diffusion current. 10
3. (a) Explain frequency response of RC coupled amplifier. 10
- (b) What is the effect of positive feedback on amplifier gain? 10

**Section-B**

4. (a) Explain Wein Bridge Oscillator. 10  
(b) Give characteristics of an Ideal Op-amp. 10
5. (a) Explain series voltage regulator. 10  
(b) Discuss SMPS. 10

**Section-C**

6. What are universal gates and how you can make AND, OR, and NOT gates using NAND and NOR gates ? 20
7. Write short notes on – 20  
(a) CRO  
(b) Multimeter

**Section-D**

8. Explain LCD with its types and also give advantages and disadvantages of LCD. 20
9. Write short notes on : 20  
(a) Dot matrix display  
(b) J-K flip-flop.