

**B.Tech. 2nd Semester F-Scheme Examination,
May-2018**

BASICS OF ELECTRONICS

Paper-ECE-101-F

(Common for All Branches)

Time allowed : 3 hours] [Maximum marks : 100

Note : Question No. 1 is compulsory and attempt one question from each section.

1. (a) What is an amplifier and why cascading is required in amplifier ?
- (b) What is slew rate and CMRR ?
- (c) Define drift and diffusion current.
- (d) What is fermi level ?
- (e) What is negative feedback ? Give its advantages.

Section-A

2. (a) Discuss characteristics of PN-Junction diode.
- (b) Why we prefer Si material instead of Ge ?
3. Discuss with the help of diagram frequency response of RC coupled amplifier.

Section-B

4. (a) Differentiate inverter and UPS.
- (b) Explain crystal oscillator.

5. (a) Explain OP-amp with its block diagram.
(b) Explain how OP-amp act as Integrator and differentiator.

Section-C

6. (a) Realize AND, OR, NOT gates using NAND and NOR. 10
(b) Explain block diagram of CRO. 10
7. Convert the following : 20
(a) $(3642)_8 = ()_{16}$
(b) $(7684)_{10} = ()_8$
(c) $(AD34)_{16} = ()_8$
(d) $(4386)_{10} = ()_2$
(e) $(364.321)_8 = ()_2$

Section-D

8. Which one is better between LCD and LED ? Why ?
Discuss the different types of LCD in detail. 20
9. Write short notes on : 20
(i) Seven segment Display.
(ii) JK flip flop.