

Roll No.

Total Pages : 02

BT-2/M-19

32031

BASICS OF ELECTRONICS ENGG.

ECE-101N

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) Explain the operation and applications of Photodiode. 5
(b) Explain the working of Half-wave Rectifier. 5
(c) Explain the diode as switch. 5
2. Explain the I-V characteristics of Zener diode. Distinguish between Zener Breakdown and Avalanche Breakdown. 15

Unit II

3. (a) Explain the concept of feedback in Amplifiers. 7½
(b) State the conditions under which a feedback amplifier works as oscillator. 7½

4. Explain the following terms :

- (a) Operating point of Transistor 5
- (b) Bracing circuit for Transistor 5
- (c) Amplifying action of BJT. 5

Unit III

5. Discuss the characteristics and basic parameters of OPAMP. 15
6. (a) Explain the concept of virtual ground in OPAMP. 7½
(b) Discuss the applications of OPAMP in detail. 7½

Unit IV

7. (a) Discuss the concept of Enhancement and Depletion MOSFET. 7½
(b) Explain the I-V characteristics of Depletion MOSFET. 7½
8. Explain the characteristics, operation and applications of SCR. 15