

3058

**B. Tech (ME) 3rd Semester
Examination – February, 2022
BASICS OF ELECTRONICS ENGG.**

Paper : ESC-ECE-207-AG

Time : Three hours]

(Maximum Marks : 75)

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after examination.

Note : Question No. 1 is compulsory. Attempt five questions in all, taking one question from each Unit. All question carry equal marks.

1. (a) Explain the term cut in voltage of a diode. 2.5
- (b) Explain in brief the barrier potential of a diode. 2.5
- (c) What do you mean by unity gain amplifier. 2.5
- (d) What is the concept of feed back. 2.5
- (e) Explain in brief the capacitor filter. 2.5
- (f) Explain in brief the universal gates. 2.5

UNIT - I

2. Explain in detail the construction and working of half wave rectifier with center tapped transformer. 15

- regulator, 8
(b) Explain the Output characteristics of BJT in CE configuration, 7

UNIT - II

4. Explain in detail the working of operational amplifier as Integrator and differentiator. 15
5. Explain the working of OP-AMP as:
(a) Summing amplifier 8
(b) Inverting amplifier 7

UNIT - III

6. Explain the following
(a) Astable multivibrator 8
(b) Monostable multivibrator 7
7. (a) Explain the working RC phase shift oscillator 8
(b) Explain in brief the RC timing circuits 7

UNIT - IV

8. (a) Explain the working of full adder with the help of logical expression. 8
(b) Explain the need of modulation in communication systems. 7

9. Write short note on the following
(a) Multiplexers
(b) AM and FM 8
7