

Koll No.

3058

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

Paper : ESC-ECE-207-G

Time : Three hours]

[Maximum Marks : 75

Before answering the questions, candidates should assure 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

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P. T. O.

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

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9. Write short note on the following:

- (a) Multiplexers 8
- (b) AM and FM 7

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