

Roll No.

3058

B. Tech. 3rd Semester (ME)
Examination – December, 2022

BASICS OF ELECTRONICS ENGG.

Paper: ESC-ECE-207-C

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 : Attempt five questions in all, selecting one question from each Unit. Question No. 1 is compulsory.

1. (a) Explain the term knee voltage of a diode.
- (b) Explain in brief the capacitor filter.
- (c) What do you mean by unity gain amplifier ?
- (d) Distinguish between analog and digital signals.
- (e) Which type of feed back is used in oscillator.
- (f) Explain in brief the universal gates. $2.5 \times 6 = 15$

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UNIT - I

2. (a) Explain in detail the construction and working of half wave rectifier. 8
(b) How zener diode works as voltage regulator? 7
3. Explain the Input Output characteristics of BJT in CE configuration. 15

UNIT - II

4. (a) Explain in detail the working of operational amplifier as Integrator. 8
(b) Discuss the practical characteristics of operational amplifier. 7

5. Write short notes on the following :

- (a) Inverting and non inverting op-amp 8
(b) Difference amplifier 7

UNIT - III

6. Explain in detail the working of IC 555 as astable and monostable multivibrator. 15

7. Write short notes on the following :

- (a) Barkhausen criterion for oscillation 8
(b) Wein bridge oscillator 7

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UNIT - IV

8. Explain in detail the basic gates with their truth table and logical expressions. 8

9. Write short notes on the following : 15
(a) AM and FM
(b) Block diagram of GSM System

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