

Roll No.

3032

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

DIGITAL ELECTRONICS

Paper : PCC-CSE-205-G

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. Question No. 1 is *compulsory*. Attempt *four* more questions selecting exactly *one* question from each Unit. All questions carry equal marks.

1. (a) What do you mean by digital signal ?
- (b) Define various applications of flip flop.
- (c) What do you mean by multiplexer ?
- (d) Define ROM.
- (e) Differentiate between Latch and flip flop
- (f) Define Quantization. 2.5 × 6 =15

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P. T. O.

UNIT - I

- 2. (a) State and explain Universal property of gates. 10
 - (b) Convert $(ABC43)_{16}$ into $()_8$ 2
 - (c) Convert $(4634)_8$ into $()_2$ 2
 - (d) Convert $(264)_{10}$ into $()_8$ 1
3. Explain various Error detecting and correcting code in detail. 15

UNIT - II

4. Realize a function with the help of NAND gates : 15
- $$F(A, B, C, D) = \Sigma(0, 2, 3, 9, 12, 15) + d(1, 4, 6)$$
5. Write short note on : 15
- (a) De-Multiplexer
 - (b) Priority encoder

UNIT - III

6. Explain the working of J-K flip flop with truth table. 15
7. Differentiate between synchronous and asynchronous counter. 15

3032-3-300-(P-3)(Q-9)(22) (2)

UNIT - IV

8. Explain various types of digital to analog converters in detail. 15
9. Explain the following : 15
- (a) FPGA
 - (b) CPLD
- _____

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