

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

Roll No .....

## IT-3003-CBGS

### B.E. III Semester

Examination, June 2020

### Choice Based Grading System (CBGS)

### Digital Circuit and System

*Time : Three Hours*

*Maximum Marks : 70*

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

iii) Draw flow charts and diagram, where needed.

1. a) What is Boolean algebra explain with suitable example, as well as defined of canonical SOP and POS form. 7  
b) Why gray code use in k-map and how come excess 3 is a self complementing code and convert excess 3 to BCD code. 7
2. a) What is a basic difference between basic gate and universal gate? How many two input NAND gate are required to perform the action of a two input OR gate and its draw. 7  
b) What is Adder? Explain of ripple carry and subtractor. 7
3. a) What does edge triggered and level triggered mean? And also defined of edge triggered flip-flop. 7  
b) Explain of Johnson ring counter and synchronous ring counter. 7

IT-3003-CBGS

PTO

[2]

4. a) What is flip-flop? Explain all type of flip-flop with truth tables? 7  
b) Draw multiplexer and demultiplexer circuit and explain its application. 7
5. a) Briefly explain of RTL, DTL, TTL. 7  
b) What is difference between NMOS, PMOS and CMOS logic? 7
6. a) Explain of Schmitt trigger circuit. 7  
b) Explain of 7 segment LED display. 7
7. a) What is DAC? 7  
b) What is Multivibrator? How does a multivibrator circuit work? 7
8. Write short notes on 14  
a) Draw 8\*1 MUX using 2\*1 Mux  
b) Explain shift left/right registers  
c) Gray to binary code conversion  
d) Explain encoder

\*\*\*\*\*

IT-3003-CBGS