1395

Code : 15CS21T

Register Number | | | | | | | |

II Semester Diploma Examination, April/May-2016

DIGITAL AND COMPUTER FUNDAMENTALS

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part – **A**.
(ii) Answer any **seven** questions from Part – **B**.

PART – A

1. Answer any **six** full questions.

1. Explain briefly binary and decimal number system. **5**
2. Classify logic gates with truth table and logic symbols. **5**
3. State Demorgan's Theorem. **5**
4. Write Half adder logic diagram with truth table. **5**
5. Define Flip-flops. List the different types of Flip-flop. **5**
6. Define High level language. Write its advantages. **5**
7. List the characteristics of impact printers. **5**
8. Name the input devices of computers. **5**
9. Define ROM. Compare ROM and RAM. **5**

PART – B

II. Answer any **seven** full questions :

1. Convert the following : $2 \times 5 = 10$
   (a) $(671)_{10}$ to binary
   (b) $(11010)_2$ to decimal
   (c) $(127662)_8$ to decimal
   (d) $(010111)_2$ to octal
   (e) $(5112)_{10}$ to hexadecimal

2. Define the following : 10
   (a) BCD
   (b) EBCDIC
   (c) ASCII Code
   (d) GRAY Code
   (e) Excess-3-code

3. List and explain any five Boolean Algebra rules. 10

4. Explain Decimal to BCD encoder with its truth table and logic diagram. 10

5. Illustrate JK-FLIP-FLOP with truth table and logic circuits. 10

6. Explain the working of 4-bit serial-in-serial-out (SISO) shift register with logical circuits. 10

7. Explain the components of a computer system with a neat block diagram. 10

8. Explain the working principle of CRT with neat diagram. 10

9. Explain the working principle of keyboard. 10

10. (a) State the benefits of secondary storage. 5
    (b) List the advantages of optical disk. 5