1152

Code : 15CS21T

Register Number | | | | | | | |

II Semester Diploma Examination, Nov./Dec. 2017

DIGITAL AND COMPUTER FUNDAMENTALS

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

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

PART – A

I. Answer any **six** full questions :

1. Explain binary number systems. **5**

2. Write the Rules of Boolean algebra. **5**

3. Construct the AND gate using NAND. **5**

4. List the applications of multiplexer. **5**

5. What is Flip-Flop ? Write the logical symbols of Flip-Flop. **5**

6. List various applications of computers. **5**

7. Compare ROM and RAM. **5**

8. Write a short note on Inkjet Printer. **5**

9. Define the following terms : **5**
   (i) Hardware
   (ii) Software

PART – B

II. Answer any **seven** questions :

10. Explain the terms : **10**
    (i) BCD
    (ii) EBCDIC
    (iii) ASCII Code
    (iv) Gray Code
    (v) Excess-3 Code

11. Convert the following : **10**
    (i) Binary to octal $(11010)_2$.
    (ii) Decimal to hexadecimal $(928)_{10}$.
    (iii) Binary to decimal $(11011)_2$.
    (iv) Octal to decimal $(146)_8$.
    (v) Hexadecimal to binary $(7AC)_{16}$.

12. State the Boolean laws with expressions. **10**

13. Explain with a neat circuit and truth table of BCD to Decimal encoder. **10**

14. Explain the working of 4-bit parallel-in-parallel-out (PIPO) shift register with logical circuit and truth table. **10**

15. Explain 4-bit asynchronous ripple counter. **10**

16. Draw a block diagram of computer system and explain. **10**

17. Explain 'The working principles of keyboard'. **10**

18. Draw the block diagram and explain the working principles of CRT. **10**

19. List the advantages and disadvantages of optical disk. **10**