1225 **Code : 15CS21T**

Register Number | | | | | | | |

II Semester Diploma Examination, April/May-2018

DIGITAL & COMPUTER FUNDAMENTALS

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

Note : (i) Answer any **six** full questions from Part-**A**. Each carries **5** marks.

(ii) Answer any **seven** full questions from Part-**B**. Each carries **10** marks.

PART – A

I. Answer any **six** questions : **6 × 5 = 30**

1. Describe 1's complement method of subtraction. **5**

2. Write the truth table and logic symbol of AND gate. **5**

3. Construct OR gate using any of the universal gates. **5**

4. Explain the difference between a half adder and a full adder. **5**

5. Write the applications of flip-flops. **5**

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

7. Explain non-Impact printers with an example. **5**

8. Enumerate the characteristics of Blu-Ray disc. **5**

9. Explain how a light pen is used as an input device. **5**

[Turn over

PART – B

II. Answer any **seven** full questions. $7 \times 10 = 70$

10. Explain with examples different types of number systems. **10**

11. Convert the following : **10**

    (i) Decimal to Binary – 528

    (ii) Binary to Octal – 11001011_2

    (iii) Hexadecimal to Binary – $8E4_{16}$

    (iv) Octal to Decimal – 351_8

12. Simplify the expressions

    $Y = \overline{A\overline{B} + C}$, by applying suitable Boolean Algebraic, rules and De-Morgan's theorem. **10**

13. Explain the working of full Adder with logic diagram, logic circuit and Truth table. **10**

14. Explain RS flip-flop with Truth table, logic symbol and logic circuit. **10**

15. Explain 4-bit synchronous Up-Down counter. **10**

16. (i) Describe the characteristics of computer. **5**

    (ii) Write the advantages of high level language over Machine level language. **5**

17. Distinguish RAM and ROM. **10**

18. Explain the basic principle of C.R.T. with a neat diagram. **10**

19. Explain the working principle of Hard Disk. **10**