

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E – CSE (Part Time)

Title of the paper: Digital Computer Fundamentals

Semester: III

Sub.Code: 611PT301

Date: 30-11-2007

Max. Marks: 80

Time: 3 Hours

Session: FN

PART – A

(10 x 2 = 20)

Answer All the Questions

1. State the demorgan's Law.
2. Simplify $A'BC + A'$
3. Convert $.625_{10}$ into binary.
4. Expand (a) ASCII (b) EBCDIC
5. What is a prime implicant?
6. Define Encoding?
7. Differentiate Latch and Flipflop?
8. What are the types of Shift Registers?
9. What is a volatile memory?
10. Define Cache memory.

PART – B
Answer All the Questions

(5 x 12 = 60)

11. Convert the following to binary and Hexadecimal.
(a) 757.25_{10} (b) 1234_{10}
(c) 1063_{10} (d) 1305.375_{10}
(or)
12. (a) Find the complement of the following Boolean expressions.
(i) $WY(Y'Z+YZ') + W'X'(Y'+Z)(Y+Z')$.
(ii) $W+(AB+C')(DE'+1+G(H'+O))$.
(b) Differentiate Positive and Negative logic.
13. List out the five basic Logic gates with their symbols, Boolean expressions and truth tables.
(or)
14. Simplify the Boolean function using K-map.
 $F(A,B,C,D) = \Sigma(0,12,5,8,9,10)$
Find the sum of Products and Products of Sum.
15. Explain about half adder and full adder.
(or)
16. Design a 1:8 Demultiplexer using two 1:4 Demultiplexer.
17. Explain about SR flipflop with truth table.
(or)
18. Design a 3 bit binary counter using D flipflop.
19. Explain about Memory Hierarchy? What are the classifications of EPROM?
(or)
20. Write a short note on
(a) CCD
(b) Optical Storage Device
(c) Virtual Memory