



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.C.A. DEGREE EXAMINATION – COMPUTER APPLICATIONS

SECOND SEMESTER – NOVEMBER 2016

CA 2502/CA 2501 – COMPUTER ORGANIZATION AND ARCHITECTURE

Date: 12-11-2016

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART - A

Answer ALL the Questions

(10 X 2 = 20 Marks)

1. Define Boolean function.
2. Simplify the Boolean function to product of sum form $F(A,B,C,D) = (0,1,2,5,8,9,10)$
3. Define Encoder.
4. Differentiate between RAM and ROM.
5. Convert the following
 - (i) Hexadecimal (F3)16 to Decimal
 - (ii) Decimal (41.6875) in to binary.
6. List out the Memory Reference Instruction.
7. List out the various Hardware components of a basic computer
8. Write the purpose of common Bus
9. Define Register Stack.
10. What is program status word?

PART - B

Answer ALL the Questions

(5 X 8 = 40 Marks)

11. a) Simplify the Boolean Function
 - (i) $F(A,B,C) = (0,2,6)$
 - $d(A,B,C) = (1,3,5)$(OR)
 - b) Explain about the JK flip flop.
12. a) Discuss in detail the working of Multiplexer.
(OR)
 - b) Write about the Types of ROMs.
13. a) Explain about the Instruction Formats.
(OR)
 - b) Discuss about the I/O interrupt.
14. a) Explain about the control of single Flip Flop.
(OR)
 - b) Describe the Design of Accumulator logic.
15. a) Write about the Stack Organization.
(OR)
 - b) Explain the Types of Interrupt.

PART - C

Answer any TWO Questions

(2 X 20 = 40 Marks)

16. a) Simplify the following

(i) $F(X, Y, Z) = (1, 2, 3, 6, 7)$ (5 marks)

(ii) $F(A,B,C,D) = (0,1,2,4,5,7,11,15)$ (5 marks)

b) Discuss about the Binary counters with parallel load. (10 marks)

17. a) Discuss in detail the Common Bus system. (10 Marks)

b) Explain about the control of registers and memory. (10 Marks)

18. a) Discuss about various addressing modes in detail. (10 Marks)

b) Write the about the Data transfer and Manipulation Instruction. (10 Marks)
