

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.C.A.DEGREE EXAMINATION –COMPUTER APPLICATIONS

SECOND SEMESTER – APRIL 2018

CA 2502– COMPUTER ORGANIZATION AND ARCHITECTURE

Date: 24-04-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

PART A

Answer the questions

(10 x 2 = 20 Marks)

1. Simplify the following Boolean function into products of sum form
 $F=B'D'+B'C'+A'CD$
2. Define don't care condition.
3. What are multiplexers?
4. Define decoder.
5. Convert 12536. into Binary.
6. Define program interrupt.
7. Write a note on flip-flop.
8. Define control logic gates.
9. What are the three types of interrupts?
10. What is a program status?

PART B

Answer ALL the questions

(5 x 8 = 40 Marks)

11. a. Explain in detail about JK flip-flops.
(OR)
11. b. Discuss on the Edge triggered flip flops.
12. a. Explain shift registers in detail.
(OR)
12. b. Discuss on the binary counters with parallel load.
13. a. Explain about memory reference instructions.
(OR)
13. b. Discuss on Program interrupt.
14. a. Write a brief note on design of a basic computer.
(OR)
14. b. Explain about the control of single flip flops.
15. a. Write about register organization.
(OR)
15. b. Explain the data transfer instructions.

PART C

Answer any TWO questions

(2 x 20 = 40 Marks)

16.a. Simplify the Boolean function $F(w, x, y, z) = \sum(1,3,10) + \sum d(0,2,8,12)$ using don't care conditions. **(10)**

b. Explain the types of ROMS. **(10)**

17. a. Explain in detail about computer registers. **(10)**

b. Discuss on the design of accumulator logic. **(10)**

18. a. Explain about the stack organization. **(10)**

b. Explain in detail the common bus system. **(10)**
