

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BC-283

B.C.A. (Part-II) Examination, 2022

COMPUTER ORGANIZATION

Paper - BCA 201

Time : 3 Hours]

[Maximum Marks : 70

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 4 × 5 = 20)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **4** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section-A

1. (i) What are the *six* main components of a computer ?
- (ii) What is Binary Number System ? Convert 151.75 decimal number to binary number.

BR-130

(1)

BC-283 P.T.O.

- (iii) What is Boolean Algebra ?
- (iv) What is Map Simplification ? What is SOP in K-map ?
- (v) What is CPU ?
- (vi) What is Register ? What are the types of register ? Write their names.
- (vii) What is Peripheral Device ? Write names of *ten* peripheral devices.
- (viii) What is I/O Interface ?
- (ix) What is Memory ? What are the types of Computer Memory ?
- (x) What is Virtual Memory ?

Section-B

2. What is 1's complement and 2's complement ? Also write difference between 1's and 2's complements. Convert the decimal number 45 to one's complement.

Or

- (a) Add two binary numbers $10001 + 11101$. Also write rules of binary addition.
 - (b) Subtract the binary $101100 - 10010$. Also write rules of binary subtraction.
3. What is half adder circuit ? Also draw half adder circuit diagram and its truth table.

Or

What is flip-flop ? Write difference between SR and JK flip-flop.

4. Explain programmed I/O and DMA.

Or

What is an Interrupt ? How an Interrupt works ? Also write advantages and disadvantages of Interrupt.

5. Explain Memory Hierarchy.

Or

What is Cache Memory ? What are the types of Cache Memory ?

6. Explain addressing mode.

Or

Explain stack organization.

Section–C

7. What is overflow in binary Arithmetic ? What are the overflow condition for addition and subtraction ?
8. Make K-map for 4 variables :
- $$F(P, Q, R, S) = \Sigma(0, 2, 5, 7, 8, 10, 13, 15)$$
- What will be the minimized Boolean expression ?
9. What is CPU in Computer ? Explain. Also explain program counter.
10. Explain Asynchronous data transfer.
11. Write difference between Primary Memory and Secondary Memory.