647510 0305212C3030 Seat No: _____

B.C.A Semester - 2 (CBCS) Examination
March/April- 2018
CS-09 COMPUTER ORGANIZATION & ARCHITECTURE
(CORE)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que-1 (A) Answer the following questions. (04)

1. Define truth table.
2. Draw circuit for x =(A' + B). (A + B')
3. Write down distributes postulates of Boolean algebra.
4. Explain EX-OR gate shortly.

Que-1 (B) Answer the following question. (Any One) (02)

1. Explain half adder.
2. Give the rules of K-map.

Que-1 (C) Answer the following question. (Any One) (03)

1. F (W,X,Y,Z) = Σ (4,5,6,7,9,13,15) draw and explain K-map.
2. F (W,X,Y,Z) = π (4,5,8,9,12,13,15) + d (6,7,10) draw and explain K-map.

Que-1 (D) Answer the following question. (Any One) (05)

1. Explain D flip flop in detail.
2. What is Associate theorem? Prove that using truth table. (both)

Que-2 (A) Answer the following questions. (04)

1. Full form of LSI is _____.
2. What is the important of selection lines in multiplexer?
3. "data selector" is another name of _____.
4. Explain serial in and parallel out.

Que-2 (B) Answer the following question. (Any One) (02)

1. Write a short note: buffer register.
2. What is I.C.? List out their types only.

Que-2 (C) Answer the following question. (Any One) (03)

1. What is Register? Explain their types in detail.
2. Write a short note: 4 bit counter.

Que-2 (D) Answer the following question. (Any One) (05)

1. Describe 4-bit shift register with parallel load.
2. Explain demultiplexer. (1 × 4)

Que-3 (A) Answer the following questions. (04)

1. _____ bit is used for positive value.
2. 4507_8 = _____$_2$
3. Full form of MQ is _____.
4. Error detection code is used to indicate error but it cannot correct it. True or False?

Que-3 (B) Answer the following question. (Any One) (02)

1. Calculate (1) 110110 + 100111 (2) 1100 + 0110
2. Calculate (1) 11011 - 1010 (2) 111000 - 101101

Que-3 (C) Answer the following question. (Any One) (03)

1. Represent (+ 68) in,
   a. Signed magnitude
   b. 1's complement
   c. 2's complement
2. How can we present any floating number in scientific representation method? Give example.

Que-3 (D) Answer the following question. (Any One) (05)

1. Explain Error Detection Code in detain.
2. Calculate 1110 × 1011 using paper method and computer method.

Que-4 (A) Answer the following questions. (04)

1. OPR code for A+B is _____
2. Full form of PN & RPN is _____.
3. Power failure in compute is _____ interrupt.
4. Stack follows _____ method. (option :LIFO, FIFO)

Que-4 (B) Answer the following question. (Any One) (02)

1. Explain control word.
2. Describe shortly : Major component of CPU.

Que-4 (C) Answer the following question. (Any One) (03)

1. Convert infix to prefix : A × 8 – [B + (D + 6)]
2. Convert infix to postfix : A + B – C × D × E/F

Que-4 (D) Answer the following question. (Any One) (05)

1. What is interruption? Explain their types.
2. Explain ALU in details.

Que-5 (A) Answer the following questions. (04)

1. DMA stand for _____
2. BR (bus request) is send from _____ to _____
3. True/False DMA is used to reduce the load of CPU?
4. True/False IO Processor can able to execute their own instructions.

Que-5 (B) Answer the following question. (Any One) (02)

1. Describe: DMA controller.
2. Explain: Address buses, Control Lines.

Que-5 (C) Answer the following question. (Any One) (03)

1. Describe: Benefits of interface.
2. Give Brief Details about I.O. interface.

Que-5 (D) Answer the following question. (Any One) (05)

1. Describe: I.O. Processor.
2. Explain: DMA transfer data in computer network system.

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