

B.Sc.(IT) Semester - 2 (CBCS) Examination**March/April- 2018****COMPUTER ORGANIZATION & ARCHITECTURE
(CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que-1 (A) Attempt following questions. (04)
- (1) In full-adder, there are three input and _____ output terminal.
 - (2) A gate is a logic circuit with one or more input signals but _____ output signal.
 - (3) A _____ sign is used to show the AND operation.
 - (4) In JK flip flop, JK stands for _____ .
- Que-1 (B) Attempt following.(Attempt any one) (02)
- (1) What is logic gate ?
 - (2) What is sequential circuit ?
- Que-1 (C) Attempt following.(Attempt any one) (03)
- (1) Explain half Adder.
 - (2) Explain De-Morgan's theorems.
- Que-1 (D) Attempt following.(Attempt any one) (05)
- (1) Explain SR flip flop in detail.
 - (2) Write a note on Full Adder.
- Que-2 (A) Attempt following questions. (04)
- (1) VLSI stands for _____.
 - (2) DIL stands for _____.
 - (3) PISO stands for _____.
 - (4) Multiplexing means _____ into one.
- Que-2 (B) Attempt following.(Attempt any one) (02)
- (1) What is IC ?
 - (2) List applications of shift register.
- Que-2 (C) Attempt following.(Attempt any one) (03)
- (1) Explain block diagram of Register.
 - (2) Explain Octal to Binary encoder.
- Que-2 (D) Attempt following.(Attempt any one) (05)
- (1) Explain asynchronous 4 bit binary counters.
 - (2) Write a note on 4 * 1 Multiplexer.
- Que-3 (A) To calculate following binary digits. (04)
- (1) $110 * 110 =$ _____.
 - (2) $1010.1 * 110 =$ _____.
 - (3) $10000111/101 =$ _____.
 - (4) $110000111/1011 =$ _____.

- Que-3 (B) Attempt following.(Attempt any one) (02)
(1) Explain rules of binary Addition.
(2) Explain rules of binary Subtraction.
- Que-3 (C) Attempt following.(Attempt any one) (03)
(1) Explain floating point representation of number.
(2) Explain 2's complement method in detail with example.
- Que-3 (D) Attempt following.(Attempt any one) (05)
(1) Explain error detection code.
(2) Write note on Parity bit.
- Que-4 (A) Attempt following questions. (04)
(1) RPN stands for _____.
(2) _____ perform arithmetic and logical calculation.
(3) The process of inserting an item into the stack is known as _____.
(4) In _____ notation the operator is placed before the operand.
- Que-4 (B) Attempt following.(Attempt any one) (02)
(1) What is Stack ?
(2) Explain Advantages of Polish Notation.
- Que-4 (C) Attempt following.(Attempt any one) (03)
(1) Explain Micro Operation.
(2) Write a short note on ALU.
- Que-4 (D) Attempt following.(Attempt any one) (05)
(1) What is RPN ? Explain use of RPN using stack with suitable example.
(2) What is Interrupt explain in detail with types.
- Que-5 (A) Attempt following questions. (04)
(1) IOP stands for _____.
(2) DMA stands for _____.
(3) _____ is a bidirectional bus which allows the transfer of data between the microprocessor and memory or peripheral device.
(4) _____ carries address of memory location or port number of peripherals device.
- Que-5 (B) Attempt following.(Attempt any one) (02)
(1) List out Registers of DMA controller.
(2) What is DMA ?
- Que-5 (C) Attempt following.(Attempt any one) (03)
(1) Explain Address register and word-count register in detail.
(2) Explain Memory bus.
- Que-5 (D) Attempt following.(Attempt any one) (05)
(1) Explain DMA Transfer in detail.
(2) Explain IOP in detail.
