DBY-003-1032003 Seat No. _____

B. C. A. (Sem. II) (CBCS) (W.E.F. 2016) Examination

July - 2022

CS-09 : Computer Organization & Architecture

Faculty Code : 003
Subject Code : 1032003

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All questions are compulsory.
(2) Each question has equal Mark.

1 (a) Attempt following questions : **4**

(1) An Inverter is also called ___ gate.

(2) What is Truth Table ?

(3) Define Universal Gate ?

(4) Define Ex-OR gate.

(b) Answer in brief : (Any One) **2**

(1) Define Full Adder.

(2) Define NOT gate with Truth Table.

(c) Answer in detail : (Any One) **3**

(1) Explain Don't care Condition with K-Map.

(2) Explain AND Gate & OR gate with Truth table.

(d) Write a note on : (Any One) **5**

(1) Explain SR-Flip Flop in details.

(2) Explain Combinational Circuit in detail.

2 (a) Attempt following questions : **4**

(1) IC Stands for __.

(2) What is Multiplexer ?

(3) What is Encoder ?

(4) A Demultiplexer is known as a data distributer. (True/False)

(b) Answer in brief : (Any One) **2**

(1) Define Parallel Register.

(2) Define 4-bits Binary Counter.

(c) Answer in detail : (Any One) **3**

(1) Explain Block Diagram of Register.

(2) Explain Decoders (3x8)

(d) Write a note on : (Any One) **5**

(1) Explain Multiplexer (4x1).

(2) Explain IC in detail.

3 (a) Attempt following questions : **4**

(1) In which method Stack Works ?

(2) What is Parity Bit ?

(3) A four bit number is given 1001. Its 1's complement is ____.

(4) Radix of the Binary Number is ___.

(b) Answer in brief : (Any One) **2**

(1) Multiply 1101 by 110.

(2) Divide 1010 By 11.

(c) Answer in detail : (Any One) **3**

(1) Divide 101101 By 110.

(2) Explain floating point representation.

(d) Write a note on : (Any One) **5**

(1) Explain Fixed Point Representation.

(2) Explain Error detecting code using parity bit.

4 (a) Attempt following questions : **4**

(1) Full form of CPU ____.

(2) Full form of ALU.

(3) Stack means last-in, First-out (LIFO) ? [True/ False]

(4) Full form of RPN _____.

(b) Answer in brief : (Any One) **2**

(1) Define Memory Stack.

(2) Define Register Stack.

(c) Answer in detail : (Any One) **3**

(1) Explain Block Diagram of ALU.

(2) Explain Accumulator Register.

(d) Write a note on : (Any One) **5**

(1) Explain Major Components of CPU.

(2) Explain Interrupts with their types.

5 (a) Attempt following questions : **4**

(1) Full form of DMA ____.

(2) Full form of IOP _____.

(3) Data Bus is bi directional ? [True/False]

(4) BR Signal is activated by DMA controller. [True/False]

(b) Answer in brief : (Any One) **2**

(1) What is Memory Bus ?

(2) What is Address Bus ?

(c) Answer in detail : (Any One) **3**

(1) Explain Input-Output Buses.

(2) Define Control lines with data bus.

(d) Write a note on : (Any One) **5**

(1) Explain DMA Controller in detail.

(2) Explain Input Out Processor (IOP).
