



DL-003-003207

Seat No. _____

B. C. A. (Sem. II) (CBCS) Examination

March - 2022

Computer Organization & Architecture : CS-09

(Old Course)

Faculty Code : 003

Subject Code : 003207

Time : **2.30** Hours]

[Total Marks : **70**

1 Attempt the following : **20**

- (1) A gate is a logic circuit with one or more input signals but _____ output signal.
- (2) The Exclusive - NOR gate is equivalent to an _____ gate followed by an inverter.
- (3) Demultiplexer is also known as _____.
- (4) A register is a group of _____ with each flip flop capable of storing one bit of information.
- (5) computer ICs work reliably because they are based on _____ design.
- (6) PISO stands for _____.
- (7) BCD stands for _____.
- (8) $1011001110\%101 =$ _____.
- (9) The control and arithmetic logic sections are called _____.
- (10) $A+B*C$ prefix of it is _____.
- (11) Stack works on _____ method.
- (12) Software interrupt is initiated by _____.
- (13) ALU stands for _____.

- (14) DMA stands for _____.
- (15) The radix of binary number is _____.
- (16) _____ bus has two parts Data bus and Address bus.
- (17) The behaviour of a sequential circuit is determined from the inputs, the outputs and the _____.
- (18) A telephone dial system is an example of _____ circuit.
- (19) _____ Flip - flops are free from race around problem.
- (20) NAND and NOR gate are known as _____.

2 (A) Attempt any three : 6

- (1) What is Address Bus ?
- (2) Explain NOR gate as a Universal Gate.
- (3) Explain JK Flip Flop.
- (4) What is Register ? List different types of registers.
- (5) What is IC ?
- (6) What is RPN ?

(B) Attempt any three : 9

- (1) Differentiate combinational Circuit and Sequential Circuit.
- (2) Explain Octal to Binary Encoder.
- (3) What is Memory Stack ?
- (4) What is Accumulator Register ?
- (5) What Parity bit.
- (6) Explain Floating point representation.

(C) Attempt Two : 10

- (1) Explain De - Morgan's theorem.
- (2) Explain K - MAP.
- (3) Differentiate Half adder and full adder.
- (4) Explain Decoder.
- (5) Write a note on Multiplexer.

- 3** (A) Attempt **three** : **6**
- (1) What are Clock pulses ?
 - (2) Explain SR Flip - Flop.
 - (3) Explain XOR Gate.
 - (4) What is Interrupt ? List different types of interrupt.
 - (5) Explain LSI, MSI and SSI.
 - (6) What is Mantissa and Exponent.
- (B) Attempt any **three** : **9**
- (1) Explain binary multiplication and binary division rules.
 - (2) Explain Don't care condition.
 - (3) Draw the logic circuit for given Boolean Function.
$$F=XY'Z+X'Y'Z+XYZ$$
 - (4) Differentiate Synchronous and Asynchronous.
 - (5) What is D Flip - Flop ?
 - (6) Write a note on Unidirectional Shift Register.
- (C) Attempt any **two** : **10**
- (1) Explain 1X4 demultiplexer.
 - (2) Draw and explain Block Diagram of ALU.
 - (3) Write a note on IOP.
 - (4) Explain DMA Controller.
 - (5) Explain the Fixed - Point representation.
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