



DBY-003-2032002

Seat No. _____

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

July - 2022

CS-09 : Computer Organization & Architecture

(New Course)

Faculty Code : 003

Subject Code : 2032002

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (a) Answer the following : 4
- (1) _____ Gate is also called ANY gate.
 - (2) NOT gate is represented by _____.
 - (3) NAND and NOR are example of _____ gate.
 - (4) SOP stands for _____.
- (b) Answer any one in brief : 2
- (1) What is Boolean algebra ?
 - (2) What is Don't care condition ?
- (c) Answer any one in detail : 3
- (1) Explain Universal gates in detail.
 - (2) Simplify the following using K -MAP : $f(A,B,C,D) = \sum (4,5,6,8,9,10) + d (1,3,7,11,15)$
- (d) Answer any one : 5
- (1) What is Flip - Flop ? Explain anyone in detail.
 - (2) What is Address ? Explain full adder in detail.
- 2 (a) Answer the following : 4
- (1) PMOS stands for _____.
 - (2) _____ is also known as data distributors.
 - (3) BCD stands for _____.
 - (4) CP stands for _____.

- (b) Answer any one in brief : 2
 (1) What is SIPO ?
 (2) Give definition of Multiplexer.
- (c) Answer any one in detail : 3
 (1) What is Integrated Circuit ? Explain level of Integrated Circuit.
 (2) Explain 4-bit Asynchronous counter.
- (d) Answer any one : 5
 (1) Explain Encoder in detail.
 (2) Write a short note on Demultiplexer.
- 3 (a) Answer the following : 4
 (1) A binary point in the extreme right of the register to make the stored number as _____.
 (2) If we add 1 to its 1's complement is known as _____ of binary number.
 (3) Sign bit equal to _____ means negative number.
 (4) Find 1's complement of 0100111001 _____.
- (b) Answer any one in brief : 2
 (1) Divide number 10110 by 10.
 (2) Multiply 110 by 110.
- (c) Answer any one in detail : 3
 (1) What is 2's Complement ? Explain with example.
 (2) What is Signed Magnitude representation ?
- (d) Answer any one : 5
 (1) Explain fixed point representation.
 (2) Explain Parity Bit with Error Detection Code.
- 4 (a) Answer any one in detail : 4
 (1) AC stands for _____.
 (2) RPN stands for _____.
 (3) ALU stands for _____.
 (4) _____ is a word whose individual bit represents various control signals.

- (b) Answer any one in brief : **2**
- (1) What is Address Register ?
 - (2) What is Stack Pointer ?
- (c) Answer any one in detail : **3**
- (1) What is Control Word ?
 - (2) Explain Accumulator Register.
- (d) Answer any one : **5**
- (1) Explain major components of CPU.
 - (2) Write a short note on General Register Organization.
- 5** (a) Answer the following : **4**
- (1) IOP stands for _____.
 - (2) DMA stands for _____.
 - (3) _____ is a bidirectional because the signal can flow in either directions.
 - (4) DCP stands for _____.
- (b) Answer any one in brief : **2**
- (1) What is Data Bus ?
 - (2) What is Interface ?
- (c) Answer any one in detail : **3**
- (1) Explain Address Register.
 - (2) Explain External Bus, Internal Bus and System Bus.
- (d) Answer any one : **5**
- (1) Explain I/O interface in detail.
 - (2) Write a short note on IOP.
