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No. of printed pages : 02

SARDAR PATEL UNIVERSITY
F.Y.B.Sc. (CA & IT) 1st SEMESTER CBCS Examination-2022
US01CIIT52 || Computer Organization And Digital Electronics

Date: 12/12/2022 Monday

Time: 10:00am to 01:00am

Maximum Marks: 70

Q.1

Answer the following questions.

[10]

- 1 Where does a computer add and compare data?
(a) Hard disk (b) Floppy disk (c) CPU (d) Memory chip
- 2 Artificial Intelligence is associated with which generation?
(b) First (b) Second (c) Fifth (d) Sixth
- 3 Which parts of the computer perform arithmetic calculations?
(a) ALU (b) Registers (c) Logic bus (d) Input device
- 4 Hexadecimal number C is equal to binary number.
(a) 1110 (b) 1100 (c) 1001 (d) 1111
- 5 A byte corresponds to _____
(a) 32 bits (b) 16 bits (c) 8 bits (d) 4 bits
- 6 The number of bits in a nibble is _____
(b) 32 bits (b) 16 bits (c) 8 bits (d) 4 bits
- 7 The Invert gate is also called a _____ gate.
(a) NOT (b) OR (c) NAND (d) NOR
- 8 The Invert gate has only _____ input and _____ Output
(a) Two , One (b) One , One (c) One , Two (d) Two , Two
- 9 A Register is a group of _____ that work together as a input.
(a) State (b) ConnectionStatus (c) Flipflop (d) Status
- 10 Multiplexer also called _____.
(a) Data multiplexer (b) .Data Invertor (c) Data Remover (d) Data Selector

Q.2

Explain following in brief. (Attempt any Ten)

[20]

- 1 What is the function of Scanner?
- 2 Write a difference between Line printer and inkjet printer.
- 3 Define : Software and Hardware
- 4 Explain binary number system.
- 5 What is number system ? List out various number systems.
- 6 $(11)_8 + (101)_2 = (\text{_____})_2$
- 7 Describe AND , OR gate.
- 8 Explain Distributive Law
- 9 Draw Logical Circuit $AB + BC$ with truth table.
- 10 Define: Encode in short.
- 11 Explain 4 X 1 Multiplexer.
- 12 Explain 3 X 8 Decoder.

[1]

[P.T.O.]

- Q-3 (A) Draw the Block diagram of Computer and explain its functions. [05]
(B) Write a note on Mouse. [05]

OR

- Q-3 (A) List Various Input Devices and explain any one of them in detail [05]
(B) List and explain applications of computer. 3 [05]

- Q-4 (A) Explain the Conversion of Binary to Decimal with Suitable example [05]
(B) Explain: Binary Addition and Binary Subtraction with suitable examples. [05]

OR

- Q-4 (A) Explain Hexadecimal Number System with example. [05]
(B) Explain the Conversion of Binary to Octal with suitable example. [05]

- Q-5 (A) Explain de Morgan's First and Second theorem. [05]
(B) Explain Commutative Law for three variables. [05]

OR

- Q-5 (A) Explain Half Adder and Full Adder logic circuits with truth table. [05]
(B) Explain NAND, NOT and XOR gate. [05]

- Q-6 (A) What is Multiplexer? Explain 8 X 1 with logic circuit and truth table. [05]
(B) Explain D Flip-flop with proper Circuit Diagram. [05]

OR

- Q-6 (A) Explain Ring Counter in Brief. [05]
(B) Explain Controlled buffer Register with example. [05]

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