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Supplementary/Improvement Examination 2023

Paper Name: Computer System Architecture Paper Code BCA/ B.Sc102

Time: 3 Hours

Maximum Marks: 60

Q.NO	Questions	Marks
1	Which of the following allows simultaneous write and read operations? a) ROM b) EROM c) RAM d) None of the above	1
2	What are Universal Gates? a) NAND b) NOR c) both (a) and (b) d) None	1
3	Which of the following is not considered a peripheral device? a) CPU b) Keyboard c) Monitor d) All of the above	1
4	Which of the following computer memory is fastest? a) Register b) Hard disk c) RAM d) None of the above	1
5	Which of the following format is used to store data? a) Decimal b) Octal c) BCD d) Hexadecimal	1
6	Which of the following memory of the computer is used to speed up the computer processing? a) Cache memory b) RAM c) ROM d) None of the above	1
7	Which of the following operations is/are performed by the ALU? a) Data manipulation b) Exponential c) Square root d) All of the above	1
8	Computer address bus is _____ a) Multidirectional b) Bidirectional c) Unidirectional d) None of the above	1
9	Which of the following circuit is used to store one bit of data? a) Flip Flop b) Decoder c) Encoder d) Register	1
10	Which of the following is a way in which the components of a computer are connected to each other? a) Computer parts b) Computer architecture c) Computer hardware d) None of the above	1
11	Which of the following circuit convert the binary data into a decimal? a) Decoder b) Encoder c) Code converter d) Multiplexer	1
12	The address in the main memory is known as – a) Logical address b) Physical address c) Memory address d) None of the above	1
13	Subtraction in computers is carried out by – a) 1's complement b) 2's complement c) 3's complement d) 9's complement	1
14	Which computer bus connects the CPU to memory on the system board? a) Expansion bus b) Width bus c) System bus d) None of the above	1
15	Which of the following memory unit communicates directly with the CPU? a) Auxiliary memory b) Main memory c) Secondary memory	1

	d)None of the above	
16	The collection of 8-bits is called –a) Byte b) Nibble c)Word d)Record	1
17	Which of the following register can interact with the secondary storage?a)PC b)MAR c) MDR d)IR	1
18	In which of the following form the computer stores its data in memory? a) Hexadecimal form b) Octal form c)Binary form d)Decimal form	1
19	Which of the following is a combinational logic circuit which sends data from a single source to two or more separate destinations? a) Multiplexer b)Demultiplexer c) Encoder d)Decoder	1
20	Which of the following is a group of bits that tells the computer to perform a particular operation?a) Accumulator b)Register c)Instruction code d)None of the above	1

Section B

Note: Attempt any four (4) Questions out of SIX (4x5=20)

Q.No	Question	Marks	CO	BL
1	What is Flip-Flop? Explain S-R flip flop with the help of a logic circuit and Truth table?	5	CO1	2
2	What is instruction cycle? Explain different phases of Instruction cycle?	5	CO2	1
3	What is a RISC? Discuss its characteristics?	5	CO3	2
4	Simplify the given 4 variable Boolean using the karnaugh map. $F(A, B, C, D) = \Sigma m(0, 1, 2, 5, 7, 8, 9, 10, 13, 15)$	5	CO1	5
5	a. Subtract $(1010)_2$ from $(1000)_2$ using 2's complement method. b. find the sum of the following by using 2's complement: + 0111 and – 0011	5	CO1	5
6	Define Logic gate? Explain basic logic gates	5	CO2	1

Section C

Note: Attempt any TWO(2) Questions out of FOUR (2x10=20)

Q.No	Question	Marks	CO	BL
1	What is a bus? What are the different types of buses used in computers? Discuss their uses.	10	CO3	2,3
2	What are interrupts? What is their need?What is priority interrupt?	10	CO2	2
3	What is Addressing Mode? List differenttypes of Addressing Mode.	10	CO5	1
4	What are micro-operations? Discuss Arithmetic micro-operations	10	CO1	1