Printed page: 2 Subject Code: ACSE0305

Roll No: | | | | | | | | | | | | | |

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech (CSE)

(SEM:3rd, SESSIONAL EXAMINATION –I) (2021-2022)

Subject Name: Computer Organization and Architecture

Time: 1.15Hours SET A Max. Marks:30

General Instructions:

- All questions are compulsory. Answers should be brief and to the point.
- This Question paper consists of 2 pages & 5 questions.
- It comprises of three Sections, A, B, and C. You are to attempt all the sections.
- Section A -Question No- 1 is objective type questions carrying 1 mark each, Question No- 2 is very short answer type carrying 2 mark each. You are expected to answer them as directed.
- Section B -Question No-3 is Short answer type questions carrying 5 marks each. You need to attempt any two out of three questions given.
- Section C -Question No. 4 & 5 are Long answer type (within unit choice) questions carrying 6 marks each. You need to attempt any one part *a* or *b*.
- Candidates are instructed to cross the blank sheets before handing over the answer sheet to the invigilator.
- No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

		SECTION – A	[8]	
1.	Attempt all parts		(4×1=4)	
	a.	Which bus is a bidirectional bus i)Address Bus ii)Data Bus iii)Control bus iv)None of these	(1)	CO 1
	b.	Program counter (PC) contains i)Address of the current instruction ii)Address of the next instruction to be - fetched iii)Value of the operand iv)Starting address of the program	(1)	CO 1
	c.	To overcome the conflict over the possession of the BUS, we use _____ i)Optimizers ii)BUS arbitrators iii)Multiple BUS structure iv)None of these	(1)	CO 1
	d.	RTL stands for _____ i) Register Transfer Language ii) Register Transmission Language iii) Regular Transmission Language iv) Regular Transfer Language	(1)	CO 1
2.	Attempt all parts		(2×2=4)	
	a.	Differentiate between computer architecture and computer organization.	(2)	CO 1
	b.	What is multiplexer? Give some applications of multiplexer.	(2)	CO 1
		SECTION – B		
3.	Answer any two of the following-		[2×5=10]	
	a.	Define Register. Explain various types of registers present inside the CPU.	(5)	CO 1
	b.	Draw diagram for given statement P: R2←R1 and discuss in detail.	(5)	CO 1
	c.	Show the bit configuration of 24-bit register when its contents represent the decimal equivalent of 195 in a) BCD b) binary c) binary coded octal	(5)	CO 1

		d) binary coded hexadecimal		
		SECTION – C		
4		Answer any one of the following-	[2×6=12]	
	a.	Explain various methods of static priority arbitration with neat diagram	(6)	CO 1
	b.	Draw and explain block diagram of simple computer with five functional units.	(6)	CO 1
5.		Answer any one of the following-		
	a.	Design two bit common bus system using four registers by using suitable number of multiplexers	(6)	CO 1
	b.	Write short notes on Bus Architecture.	(6)	CO 1