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Subject Code: ACSE0305

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

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute)

Affiliated to Dr. A.P. J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

Course: B.Tech **Branch: Computer Science & Engineering**

Semester III **Sessional Examination III** **Year- (2021- 2022)**

Subject Name: Computer Organization and Architecture

Time: 1.15 Hours **[SET- B]** **Max. Marks:30**

General Instructions:

- This Question paper consists of 2 pages & 5 questions. It comprises of three Sections, A, B, and C
- 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. Attempt any two out of three questions given.
- Section C - Question No. 4 & 5are Long answer type (within unit choice) questions carrying 6 marks each. Attempt any one part *a* or *b*.

		SECTION – A	**[08Marks]**	
1.	**All questions are compulsory**		**(4×1=4)**	
	a.	**Micro operation ASHL R1 .....& ASHR R1..... , if R1= 01001**	**(1)**	**CO3**
	b.	**Write full form of RISC..... ....and CISC.....**	**(1)**	**CO3**
	c.	**Bias value of single precision.....& double precision..... of IEEE754 floating point representation.**	**(1)**	**CO2**
	d.	**Choose correct option for single and double precision IEEE 754 floating point representation-** **i) 1 bit ii) 8 bit iii) 53 bit iv) None of these**	**(1)**	**CO2**
2.	**All questions are compulsory**		**(2×2=4)**	
	a.	**Explain control memory with suitable diagram.**	**(2)**	**CO3**
	b.	**Sketch the diagram of Instruction cycle and Sub cycle.**	**(2)**	**CO3**
		SECTION – B	**[10Marks]**	
3.	**Answer any two of the following-**		**(2×5=10)**	
	a.	**Sketch the flow diagram of division algorithm.**	**(5)**	**CO2**
	b.	**Represent in IEEE754 single precision-** **i) 20.125 ii) -5.50**	**(5)**	**CO2**
	c.	**Differentiate Horizontal and Vertical microprogramming.**	**(5)**	**CO3**

		SECTION – C	[12M:	
4	Answer any one of the following-		(1×6=(	
	a.	Perform two address and zero address instruction for given equation Y = (M+N) * (P-Q)	(6	CO3
	b.	Discuss the pipeling concept with suitable example and diagram.	(6)	CO3
5.	Answer any one of the following-		(1×6=6)	
	a.	Discuss the memory hierarchy with suitable diagram.	(6)	CO4
	b.	Design & discuss the micro programmed control with suitable diagram.	(6)	CO3

ALL THE BEST