

# Daffodil International University

Faculty of Science & Information Technology Mid-Term Examination, Spring 2023

Course Code: CSE411: Course Title: Computer Architecture and Organization

Term: 1 Batch: 56

Time: 1.5 Hrs

Marks: 25

#### Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

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1.	ø)	Suppose, Two instructions are in your system. One is $[A+(2*B)]-[(C+D)*5]$ , another is $[A+(2*D)]+E$ . The system is designed in the variable-length instruction format. The memory addresses of the two instructions are 122DEF H and 879FF H.	[3]	
	_/	Construct the equivalent assembly code of the first instruction in a two- operand instruction format.		CO3
	,5)	In the second instruction, the last operand E is stored at first in the given memory address and subsequently, the others are stored. Identify the reason behind this.	[4]	
	c)	Construct the organization of the computer system which was invented from the motivation of Babbage's Difference Engine.	[3]	
2.	gy'		[4]	COI
	B	Define the types of equipment that were used for computation before	[2]	
	os	Which computer was used to transfer information between the CPU and the	[2]	
3.	g	Integrated circuits can allow more transistors to make a system in a tiny piece of chip. Illustrate the structure from which generation IC is invented.	[3]	CO2
	b	C Daniel Control of the Control of t	[4]	002

## Daffodil International University

#### Faculty of Science & Information Technology Mid-term Examination, Spring 2023

#### Course Code: CSE411 Course Title: Computer Architecture and Organization

Level:4 Term:1 Batch:55

Marks: 25

Time: 1 Hour and 30 Minutes

### Answer ALL Questions

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	The architectural level model is where the specific sub-system blocks are put in place, with accurate connectivity and behavior. This model may be more or less abstract, but correlates directly to hardware to be built wit different components such as secondary storage, NAND gate, addes system bus, counter etc.  Now, classify the above components according to their design level with the storage of the storage of the system.	h r.	COI
	their respective functions.	"	
	What are the differences between human brain and microprocessor.  Explain in brief. Also identify the steps required to handle the interrupt service requests by the processor.	r. [4]	
2.	<ul> <li>Demonstrate the 0-operand and 1-operand instruction sequences for the following operation:</li> <li>d ← a * b + c</li> <li>Assume that all data are in registers.</li> </ul>	[4]	CO2
	Software compatibility is a characteristic of software components of systems which can operate satisfactorily together on the same computer or on different computers linked by a computer network.  Now, give the structure of that system which introduced the characteristic in evolution of computers.	er,	
a)	according to your admission serial number and your school friend has g the next serial number and your college friend has been admitted immediately after your school friend in your university.  Now analyzing the above scenario write your college friends ID number and your analyzing the above scenario write your college friends ID number and your school friends and your school friend has g	ot ed	C03
	like you have and represent that ID into negative binary number.		
b)	Suppose, you have a data to store in computer memory. Now, apply little endian and big-endian addressing techniques for the following instruction:	e- [4]	
	Store 5892367H, B01F9FH Here, Hexadecimal Number is 5892367 and Address is B01F9F	1	