



Daffodil International University

Department of Computer Science and Engineering

Faculty of Science and Information Technology

Final Examination, Semester: Fall-2019

Course Code: CSE 322

Course Title: Computer Architecture and Organization

Section: Day All

Course Teacher: All

Time: 2 Hours

Full Marks: 40

Answer all of the following questions

- Q1. a. Illustrate the big-endian and little-endian representation of the following instruction
STORE 01104063H, CDE0ABH 2
- b. Show 0,1,2,and 3-operand instruction sequences for the given operation:
 $M \leftarrow N - O$ (assume that all data are in registers). 4
- c. Explain any four types of addressing modes 4
- Q2. a. Draw the flowchart of a six-stage instruction pipeline 2
- b. What is Pipeline Hazard? Describe RAW, WAR, WAW data hazards with examples 1+3
- c. Explain how branch prediction works with necessary flowchart and state diagram 4
- Q3. a. What is cache memory? Write down the criteria for measuring its performance 1+1
- b. Explain cache read operation 4
- c. Discuss the direct mapping of cache memory 4
- Q4. a. What are swap-in and swap-out? 2
- b. What is Virtual Memory? Write down the advantages and disadvantages of using Virtual Memory. 2+2
- c. Explain the mapping of a virtual address to its corresponding physical address 4