ourdiu.com | Shared by Abdullah Tawsif (CSE-232)

Daffodil International University

Faculty of Science and Information Technology
Department of CSE
Mid-Term Examination, Semester: Spring 2022
Course Code: CSE 411 (Day) Course Title: Computer Architecture & Organization
Section: All

Time: 01:30H **[Answer all the Questions. Obtain marks in the right side]** **Full marks: 25**

Question 1 (CO1, CO2) — 13 Marks

a. What is **Batch Processing** System? What are the **limitations** of the **First-Generation Computer?** [2]

b. Third Generation came up with **IC** component. One of the outcomes of this components is **IBM360.** Try to express your understanding on IBM360 with a proper diagram. [4]

c. Define the term **"Instruction Cycle"**. [1]

d. There are 3 design levels and each design level there are many types of components. Can you classify the following components according to their design level? [2]

Projector, NAND gate, Adder, Pen drive, counter, Cache Memory

e. Imagine you are an **engineer** of **Tesia Incorporation.** You are designing a system of Gate level. in the system there are several logical and arithmetic functions. You *are required to implement* a function of **Exclusive-NOR** and represent it as a system. As an engiucer you have to thoroughly represent it in a general from the **Block diagram** and have to *justify with a truth* table. As a brilliant engineer how would you solve this problem? Explain it. *[4]*

Question 2 (CO2, CO3) — 12 Marks

a. Suppose a word of three characters **"TN6"**. Now convert the **second letter** into **octal, first one** into **hexadecimal.** [2]

b. Write down the **nost immediate number** of the followings: [2]

i. 10F (Hexadecimal)
ii. 127 (Octal)
iii. 01111111 (Binary)

c. Write down the negative number of 96 (base 10) into binary? [1]

d. Suppose you have 10 **instructions** to execute. Now execute these instructions **in normal manner** as well as with **Instruction pipelining,** and elaborate which way works **better** and how? [4]

e. Suppose you have following **instruction** to be execute: **Store 56781234H, ABCDEAH**. Now perform an operation to store the data 56781234H in address ABCDEAH using both, **Big Endian Mode and Little Endian Mode** [3]

--☼-- Best of Luck --☼--