Daffodil International University

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Midterm Examination Semester: Spring 2017
Course Code: CSE 231 (DAY)
Course Title: Microprocessor and Assembly Language
Course Teacher: All

Time: 1.5 hours **Full Marks: 25**

Answer any five of the following questions. Figures in the right-hand margin indicate full marks.

1. a) Write an assembly program which **[5]**
(i) prints 'Child' , if AX =< 18
(ii) prints 'Adult', else if AX > 18 and AX < 60
(iii) prints 'Old', else

2. a) Is there any mechanism using which i/o devices can transfer data to/from memory faster than through (via) CPU? If any then explain that mechanism in details. **[4]**

b) What is the function of ***IP register***? **[1]**

3. Write an Assembly program which displays a "?". The program then reads two decimal numbers and displays their subtraction on the next line. The sample input/output is given below: **[5]**

? 63
Difference = 3

4. a) Explain the sequence of 8086 ***Memory Banking*** operations in details to write a word (16 bits) to address **05379H**. **[4]**

b) What ***physical address*** is represented by **AA30h:0039h**? **[1]**

5. a) Differentiate between ***INTR*** and ***NMI*** interrupt. **[2]**

b) Briefly describe ***register indirect*** addressing mode with example. **[3]**

6. For each of the following instructions, give the new destination contents and new values of status flags. Suppose that the flags are initially 0. **[5]**
(i) SUB AX, BX
where, AX contains 8000h and BX contains 1001h
(ii) NEG AX
where, AX contains 800Fh
(iii) ADD AX, BX
where, AX contains 7FFFh and BX contains 0011h

-- Best of Luck --