NORTHERN UNIVERSITY
B A N G L A D E S H

Department of CSE
MID Term Examination, FALL-2021

AJ

Course Title: Microprocessor and Assembly Language
Course Code: CSE 3124

Time: 1 hour 20 minutes   **Total Marks: 20**

Answer **two** questions (Question no1 is mandatory)

1.
   a) 'Assembly language is a low level language' – True/False and why? How do the
      8085 and 8086 microprocessors differ with each other in terms of register sets?   **3**
   b) Derive the contents of the Flag (CF, PF, ZF, SF) registers of 8086 microprocessor
      upon executing the following instructions: **3**
      I.   CMP AL, ABh ; Assume AL initially contains FFh
      II. SUB AX, 1234h; Assume AX initially contains 8000h
   c) Write appropriate assembly language code to accomplish the following tasks: **4**
      I.   0Bh x (200-225) + 127
      II. FFFh x 10h + 1111b

2.
   a) Why each memory slot of 8086 Microprocessor is of 8 bits, the data bus being of
      16 bits?   **2**
   b) How stack segment is different from data and memory segment? Write a short note
      on JMP, JNE and JLE instructions.   **3**
   c) What type of addressing has been used in the following instructions? Name
      different types.   **5**
      I.   MOV AX, [0F3h]
      II.   MOV [AX], BL
      III. MOV CX, BX
      IV.   MOV AX, 0FF0h
      V.   MOV AL, VM ; where VM is a 8 bit variable

3.
   a) Differentiate between NMI and INTR.   **2**
   b) Figure out the offset address to locate physical address in the memory given below.
      Mention the formula after discussing the concept of offset and segment number:
      [Given CS = 2450h]   **4**
      I.   2460E
      II. 2450A
   c) Briefly explain the Fetching and Execution cycles of an instruction with example.   **4**