COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

Mid-Term Examination, 2019/2020 SESSION

Course Title: Assembly Language

Course Code: COE 306

Units: **3**   **Time Allowed:**   1 Hr.

INSTRUCTION: Attempt **ALL** Questions.

Append Your **Signature** on Each **Page** Used

Question 1

a. Why would it not be a good idea to use numeric addresses when writing instructions that access variables?
b. What types of files are produced by the assembler?

Question 2

a. Briefly explain the concept of portability as it applies to programming languages.
b. Is the assembly language for x86 processors the same as those for computer systems such as the AMD or Motorola 68x00? Give reason
c. The general purpose register are used mainly for arithmetic and data movement, explain the lower families of EAX register with aid of a diagram.

Question 3

a. Explain how segmentation is achieved in assembly language.
b. Briefly explain the below assembly language snippet code:
   Main Proc
   MOV AX, 47104
   ADD EAX, 127Q
   MOV DS, AX
   main ENDP
c. Describe the following syntax below:
   (i) value1   BYTE   6Dh

   (ii) value2   DWORD ?

   (iii)value3   SBYTE   -10,-20,-30,-40,-50

Question 4

Write a program that subtracts three integers using only 16-bit registers. Insert a **call DumpRegs** statement to display the register values.