COURSE CODE: CIT 411
COURSE TITLE: Microcomputers and Microprocessors
TIME ALLOWED: 2Hours
CREDIT UNIT: 2
INSTRUCTION(S): Attempt Question 1 and any other two (2) questions

Question 1

(a) Describe the operation of a coprocessor trap   (5marks)
(b) Identify and briefly explain the three fields in a coprocessor instruction   (5marks)
(c) Interpret the meaning of the following MOV instructions: (i) MOV R2, #80h, (ii) MOV R4, A (iii) MOV DPTR, #0F22Ch (iv) MOV R2, 80h (v) MOV 52h, 53h   (10marks)
(d) Describe Swap Instruction and explain the three (3) Program control instructions
                                                                                                                    (10marks)

Question 2

(a). with appropriate illustration, describe the design principle of von Neumann architecture
                                                                                                                    (10marks)

(b). Explain the concept of stored-program computer   (5marks)
(c). enumerate on the set-back of von Neumann model   (5marks)

Question 3

a. Identify the classes of instructions and their respective functions   (10marks)
b. Explain the term DMA? Mention any five devices that make use of DMA (10 marks)

Question 4

a. Describe how computer performs an Addition and Subtraction operation (12marks)
b. Explain the rules required when considering interrupt priorities   (8marks)

Question 5

a. Explain the organization of memory using 80386 system   (10marks)
b. Why do we need DMA and outline its benefits   (10marks)