**BRAHMA VALLEY COLLEGE OF TECHNICAL EDUCATION**

**Preliminary Exam**

#  Course Name: Computer/ Information Technology Group Semester: 4(G) Marks: 100

 Subject: **MAP** Date: - **12/3/2014** Time: **9.30 am To 12.30 pm**

**Q1. a) Attempt any SIX of the following: 12 Marks**

1. Give the syntax for defining procedure.
2. List any two addressing modes of 8086 with one example each.
3. State the use of AF and SF flags in 8086.
4. State the functions of the following pins of 8085 microprocessor 1) ALE 2) IO/M
5. Draw the symbols used in a flowchart while developing ALP. Mention the use of each symbol (Any 4)
6. List all the 16 bit general purpose registers of 8086 microprocessor
7. Give evolution of Microprocessoer.
8. State two instruction each for addition & substraction.

**Q1. b) Attempt any TWO of the following: 8 Marks**

1. Differentiate between NEAR and FAR CALLs (4points)
2. List any four assembler directives & state their significance.
3. State the function of following assembly language programming tools a). Editor b) Assembler c). Linker d) Debugger

**Q.2 Attempt any FOUR of the following: 16 Marks**

 1. Describe the function of SID & SOD pin.

 2. Describe the segmentation in 8086. List 4 advantages of segmentation.

 3. Draw the flag register format of 8085 microprocessor and explain all the flags.

 4 What will be the contents of register BL after the last instruction execution?

 MOV BL, 14H

 MOV CL, 03H

 ADD AL,BL

 5 What is QUEUE? How does speed up to the processing of the 8086.

 6 List the steps in physical address generation in 8086 microprocessor. Calculate the physical

 address for the given CS = 4370 , IP =56

**Q3. Attempt any FOUR of the following: 16 Marks**

 1 Explain the following instructions with one example each.

1. ADD 2) LEA 3) INC 4) XCHG
2. Differentiate between 8085 and 8086. (Any 4 points)
3. State the functions for the following pins of 8086

 1 NMI 2 HOLD 3.QS0 4 INTR

1. Draw the diagram of octal latch and explain it.
2. List and explain any 4 Processor control instruction of 8086 microprocessor.
3. Write assembly language program for multiplication of two 16-bit number.

**Q4. Attempt any FOUR of the following: 16 Marks**

 1) Explain the following instructions of 8086

 1) CMP 2) DAA.

2) Write an Assembly Language program to multiplication of two BCD numbers.

 3) Identify the addressing modes for the following instructions:

 1) MOV AX,[BX]

 2) MOV DX,40[BX][DI]

 3) SBB AX , 30[BP]

 4) MOV BL , 56H

 4) Write assembly language program to multiply two 8 bit numbers.

 5) Define Macros & explain the directives used in macros.

 6) Write ALP to Divide 2 numbers (16/8).

**Q5. Attempt any FOUR of the following: 16 Marks**

1. Write assembly language program to find the smallest/ largest number.

 2) How many times LOOP1 will be executed in the following program? What will be the

 contents of BL after the execution?

 MOV BL, 00H

 MOV CL, 05H

 LOOP1: ADD BL, 02H

 DEC CL

 JNZ LOOP1

 3) Write an Assembly Language program for BCD to Hex Conversion.

4) Describe reentrant procedure with the help of schematic diagram.

5) Explain MUL and IDIV instructions.

 6) Write the appropriate 8086 instructions to perform the following operations:

 1) Multiply AL register contents by 4 using shift instruction

 2) Move 1234H into DX register.

**Q6 Attempt any TWO of the following: 16 Marks**

1. Draw the timing diagram of minimum mode memory write cycle. Also explain the same
2. Draw the functional block diagram of 8086. And Explain in detail.
3. Draw a neat labeled pin diagram of 8086. Explain the functions of minimum mode pins of 8086.

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