APC - 5079

First Year B.C.A (Semester - II) Examination
Paper - 15BCA113
Microprocessor

Time : Three hours] [Full Marks - 60

N.B. : *i) Due Credit will be given to neatness and adequate dimensions.*

ii) Assume Suitable data wherever necessary.

iii) Illustrate your answer if necessary, with the help of neat sketches.

iv) Use Blue / Black ink only for writing the answers.

Q.1 Choose the correct alternative. 5

a) Address bus size of 8086 µp is _____
   i) 16 bit ii) 20 bit
   iii) 24 bit iv) 32 bit

b) ADD AL [BX] instruction has ____ addressing.
   i) Register ii) Immediate
   iii) Direct iv) Indirect

c) PSW stand for _____
   i) Program string word
   ii) Program State word
   iii) Program status word
   iv) None of these

d) In 8051 µc, the instruction MOV A, 25 belongs to ____ addressing.
   i) Register ii) Immediate
   iii) Direct iv) Indirect

e) The assembler directive DW means _____
i) Data word ii) Define word
iii) Direct word iv) Decimal word

Q.2 a) Explain the programming model of 8086 µp. 6
b) Explain the flag register of 8086 µp with function of flag bit. (Any Four) 5

OR

Q.3 a) Explain evolution of microprocessor with suitable examples. 5
b) Draw the block diagram of 8086 µp and explain the function of various blocks. 6

Q.4 a) Explain Addressing modes of 8086 µp with suitable examples. 6
b) Explain the meaning of following instructions. 5
i) MOV AX, [BX] ii) ADD AL, [2000]
iii) MULBYTEPTR [BX] iv) XOR AX, BX
v) CMP AL,BL

OR

Q.5 a) Explain the arithmatic instruction with suitable example in various addressing mode. 6
b) State the addressing modes of following instruction. 5
i) MOV AL, [SI] ii) MOV AX, 1234H
iii) ADD AL,[BX] iv) SUB AX, [2000]
v) MOV AX, BX

Q.6 a) Discuss the use of following directives in 8086 assembler. 6
i) DB ii) ENDS
iii) SEGMENT iv) ASSUME
v) DW vi) EQU

b) Write ALP program to add 8 bit number in
i) Register Addressing ii) Indirect Addressing. 5

OR

Q.7 a) Explain the data transfer instructions in various addressing modes with suitable instructions. 6
b) Write ALP program to perform 8 bit unsigned multiplication in i) Register Addressing
ii) Indirect Addressing 5

Q.8 Draw the pin diagram of 8086 microprocessor. Explain the function of each pin. 11

OR

Q.9 a) Explain software and hardware interrupt of 8086 microprocessor. 4
b) Explain the interrupt vector table of 8086 microprocessor. 7

Q.10 Explain the following concepts. 11
i) Super scaler pipe line architecture
ii) Cache memory
iii) CISC processor
iv) RISC processor

OR

Q.11 a) Explain the important feature of 8051 µc. 5
b) Explain the memory organization of 8051 µc. 6

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