B.C.A. (Part—II) Semester—IV Examination

ADVANCED MICROPROCESSORS AND MICROCONTROLLER

Paper—4 ST 5

Time : Three Hours] [Maximum Marks : 60

Note :— (1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

(3) Draw neat sketches wherever necessary.

1. (A) Draw and explain block diagram of 80286 µp. 6

(B) Explain flag register of 80286 µp in detail. 6

OR

2. (P) Explain addressing modes of 80286 µp. 6

(Q) Explain register organisation of 80286 µp. 6

3. (A) What is Flag Register ? Explain the flag register of 80386 µp in detail. 6

(B) Explain Segment Descriptor Register of 80386 µp. 6

OR

4. (P) Explain virtual 8086 mode operation of 80386 µp. 6

(Q) Explain paging operation in 80386 µp. 6

5. (A) Draw and explain block diagram of 8051 µc. 6

(B) Differentiate between microprocessor and microcontroller. 6

OR

6. (P) Explain :

(1) Data Pointer Register

(2) Program Counter

(3) Stack Pointer. 6

(Q) Explain Internal RAM memory of 8051 microcontroller with neat diagram. 6

7. (A) What is addressing mode ? Explain addressing modes of 8051 μc with example. 6

(B) Explain the meaning of the following instructions in 8051 μc and identify their addressing modes :

(1) DAA

(2) MOV A, R_n

(3) ADD A, # 05H

(4) ADD A, @ R_0. 6

OR

8. (P) Write ALP program for addition of two 8-bit number with flowchart using 8051 μc. 6

(Q) What is arithmetic group of instructions ? Explain multiplication and division instructions of 8051 microcontroller. 6

9. (A) Explain power saving mode of 8051 microcontroller. 6

(B) Explain with suitable diagram interfacing of RS-232C with 8051 μc. 6

OR

10. (P) Explain interfacing of 8255 PPI with 8051. 6

(Q) Explain Simplex, Half Duplex and Full Duplex mode of communication. 6