

AM-241

B.C.A. Part—II (Semester—IV) Examination
ADVANCE MICROPROCESSORS AND
MICROCONTROLLER
Paper—4 ST 5

Time—Three Hours]

[Maximum Marks—60

Note :— (1) Assume suitable data wherever necessary.
(2) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) Explain real mode operation of 80286 Microprocessor. 6
- (b) Explain the following addressing mode with example :
 - (i) Register indirect addressing mode.
 - (ii) Base-plus-index mode.
 - (iii) Base indexed mode with displacement. 6

OR

2. (a) Draw and explain the block diagram of 80286 microprocessor. 6
- (b) Explain protected mode operation of 80286 MP. 6
3. (a) Explain different datatypes in 80386 MP. 6

- (b) Explain the concept of segmentation in 80386 MP.

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OR

4. (a) Explain protected mode operation of 80386 MP.

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- (b) Explain the segment descriptor register of 80386.

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5. (a) Explain the block diagram of 8051 Microcontroller.

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- (b) Explain the operation of port 0 of 8051 microcontroller with example.

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OR

6. (a) Explain :

(i) 8051 oscillator and clock

(ii) Program counter

(iii) Data pointer (DPTR).

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- (b) Explain TMOD and TCON register of 8051 microcontroller.

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7. (a) Explain the following pins with example :

(i) ADD A, direct address

(ii) SUBB A, #data

(iii) ANL direct address, #data

(iv) CJNE A, #data, rel.

8

- (b) Write an assembly language program for division of two 1 byte hex numbers, where dividend is stored in

memory location D000H and divisor stored in memory location D001H. Store quotient and remainder in memory location D002H and D003H respectively.

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OR

8. (a) What is meant by addressing mode ? Explain the direct and indirect addressing mode.

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- (b) Write an assembly language program that multiplies two 8 bit hex numbers stored in memory locations C505H and C506H. Store the two byte result in consecutive memory locations from C600H.

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9. (a) Explain the half duplex and full duplex mode of communication.

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- (b) Explain the interfacing of DAC to 8051 microcontroller.

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OR

10. (a) Explain the interfacing of 8051 with RS-232C.

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- (b) Explain the concept of asynchronous and synchronous data transmission.

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