

[42]

SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

8C

**SARDAR PATEL UNIVERSITY**

M.Sc. (Instrumentation & Control) Semester – II Examination  
Subject: **ADVANCED MICROPROCESSOR SYSTEMS (PS02CINC22)**

Date: 20/03/2019

Time: 10:00 A.M to 1:00 P.M

Total Mark: 70

Wednesday

**Q.1 Choose a correct option for the questions given below:**

(8)

1. In DIV BX instruction quotient is stored into \_\_\_\_\_ and remainder is stored into \_\_\_\_\_ registers.  
(a) DX, AX      (b) BX, AX      (c) DX, BX      (d) AX, BX
2. The instruction MOV AX, 0005H belongs to the address mode.  
(a) Immediate      (b) Register      (c) Direct      (d) Register relative
3. In max mode, control bus signal S0, S1 and S2 are sent out in \_\_\_\_\_ form.  
(a) Decoded      (b) encoded      (c) shared      (d) unshared
4. Which 8086 interrupt has highest priority?  
(a) Internal interrupt      (c) software interrupt  
(b) Non-maskable interrupt      (d) external hardware interrupt
5. \_\_\_\_\_ location are reserved for interrupt vector table.  
(a) 00000-07FFFH      (b) 00000-003FFFH      (c) 00000-FFFFFH      (d) FFFF0-FFFFFH
6. Which are the signals used to access even and odd memory banks?  
(a) A0 and BHE      (b) BHE and BLE      (c) A19 and BLE      (d) A0 and ALE
7. First 32 bit processor in X86 series is  
(a) 8086      (b) 80286      (c) 80386      (d) 80486
8. Which of the following is the first processor with protected virtual memory addressing?  
(a) 8086      (b) 80286      (c) 80386      (d) 80486

**Q.2 Answer the following (attempt any 7):**

(14)

- 1) Describe flags of 8086 in brief.
- 2) In brief explain data type.
- 3) What is the function of LOCK signal in 8086.
- 4) Give two benefits of DRAM over SRAM.
- 5) Draw the block diagram of 8288 bus controller with proper labelling.
- 6) Enlist the functional units in 80486.
- 7) Enlist the features of 80286.
- 8) Difference between isolated I/O and memory mapped I/O.
- 9) List out interrupt instruction of 8086.

①

(P.T.O.)

- Q.3 (a) Enlist different addressing modes available with 8086. Explain them with example. (6)  
(b) Write the program to divide a string of unpacked ASCII digit. (6)

OR

- (b) Write the program to find the maximum number in a given string and store it in location 0510. (6)  
Q.4 (a) Write a detailed note on hardware organization of the memory address space. (6)  
(b) Write a detailed note on maximum mode interface signal for 8086. (6)

OR

- (b) Enlist minimum mode control signals and explain function of each. (6)  
Q.5 (a) With help of necessary diagram and waveform explain input/output handshake. (6)  
(b) Describe in detailed the interfacing of 8-byte wide output part interfacing. (6)

OR

- (b) Describe predefined interrupt Type 0 to Type 4. (6)  
Q.6 (a) Draw the architecture of 8087 and explain. (6)  
(b) Draw the architecture of 80486 microprocessor and explain. (6)

OR

- (b) Draw the architecture of 80286 microprocessor and explain. (6)

