Sem- Vth Bio-Med (R) Date:- 01/05/2011

11 : 1st half-11(d)-JP Sub :- Microprocessors.

Con. 3442-11. **RK-2122**

(3 Hours) **[Total Marks : 100**

N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable** data wherever **required** with **justification**.
(4) **Figures** to the **right** indicate **marks**.

1. (a) What do you mean by segmentation ? What are the advantages of using segmented memory ? **5**
   (b) Distinguish between maximum and minimum mode of 8086 microprocessor. **5**
   (c) Explain any two instructions in which 8085 microprocessor uses W and Z temporary registers. **5**
   (d) What is role of bus arbiter in multiprocessor ? **5**

2. (a) Explain what is wait state in 8085 microprocessor, with an example illustrate its use. **10**
   (b) Explain the different data types supported by 8087 NDP. **10**

3. (a) Explain predefined or dedicated interrupt of 8086 microprocessor. **10**
   (b) Explain different string instructions of 8086 microprocessor. **10**

4. (a) Draw interfacing diagram and memory map for 8086 based system with the following specifications. Also show latches, buffers and decoder :— **16**
      (i) CPU working as 8MHz
      (ii) 16 KB RAM
      (iii) 8 KB EPROM.
   (b) Explain BSR mode of 8255. **4**

5. (a) Explain interaction between 8086 and 8087. **10**
   (b) What do you mean by multiprocessor systems ? Explain in detail loosely coupled multiprocessor system. **10**

6. (a) Draw timing diagram for following 8085 instructions :— **10**
      (i) DCRM
      (ii) MVI A, 20H.
   (b) Explain 8086 family maximum mode of operation with timing diagram. **10**

7. (a) Write assembly language program to find out largest number from series of five 16 bit numbers using 8086 instructions set. **10**
   (b) Explain interrupt priorities of 8086 microprocessor. **5**
   (c) Explain exceptions of 8087 coprocessor. **5**

Bio-Medical V (Rev) 3-12-2010
Microprocessors.

VT-6738-10-32

Con. 5800–10. **(REVISED COURSE)** **GT–6738**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question **No. 1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) **Figures** to the **right** indicate **full** marks.
(4) Assumptions made should be **clearly** stated.

1. (a) Explain Banking in case of 8086. 5
(b) What is role of Bus arbitor in multiprocessor ? 5
(c) Distinguish between Bus Interface Unit and Execution Unit of 8086. 5
(d) Explain different addressing modes of 8085 with suitable example. 5

2. (a) Explain interrupt in 8086 in detail. 10
(b) Draw the interface of 8086-8087 and explain its working. 10

3. (a) Explain different string instructions of 8086. 10
(b) List and explain different data types supported by 8087 NDP. 10

4. Design 8086 microprocessor based system in minimum mode for following specifications :– 20
(i) CPU with 8 MHz clock
(ii) 128 KB EPROM using 32 KB devices
(iii) 64 KB RAM using 16 KB devices
(iv) Two 8 bit output port in handshaking mode.
Draw neat schematic and memory and I/O map.

5. (a) Write a program to find out area of circle using 8086 and 8087. 10
(b) Explain architecture of 8085. 10

6. (a) Explain different priority resolving schemes applicable to multiprocessing systems. 10
(b) Draw Timing diagram of :– 10
(i) IN 80h
(ii) MOV, M, A.

7. (a) Explain 8086 family maximum mode operation with timing diagram. 16
(b) Distinguish between maximum mode and minimum mode. 4

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BIO-MEDICAL - IV^th (REV) - MAY 2010

Microproccessors

2/6/10

1 : 1st half-10-DD (F)

Con. 3428-10. (REVISED COURSE) AN-4262

(3 Hours) [Total Marks : 100

N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable** data, if **necessary**.
(4) **Figures** on **right** indicates **full** marks.

1. Solve any **four** :— **20**
   (a) Explain exceptions of 8087 coprocessor.
   (b) Explain banking in case of 8086.
   (c) Write a program to multiply two 16-bit signed numbers using 8086.
   (d) Explain how signals like $\overline{MEMR}$, $\overline{MEMW}$, $\overline{IOR}$ and $\overline{IOW}$ are generated in 8085 system.
   (e) What is the role of bus arbiter in multiprocessor ?

2. (a) Explain flag register of 8085 in detail. **10**
   (b) Draw timing diagram of :— **10**
   (i) LDA 2200 h (ii) OUT 80 h

3. (a) Draw the interface of 8086-8087 and explain its working. **10**
   (b) Explain string instructions in 8086. **10**

4. (a) Explain pre-defined or dedicated interrupts of 8086 microprocessor. **10**
   (b) What do you mean by "Multiprocessor" systems ? Explain in detail the different types of Multiprocessor systems. **10**

5. (a) Design 8086 microprocessor based system in maximum mode for following specifications :— **16**
   (i) CPU with 8 MHz clock
   (ii) 16 kB RAM
   (iii) 8 kB EPROM
   (iv) Two 8 bit output ports in handshake mode.
   Draw a neat schematic and memory and I/O maps.
   (b) Distinguish between maximum mode and minimum mode. **4**

6. (a) Write a program using 8087 instructions to calculate volume of the sphere. The radius of sphere is given in short real format. Also draw flowchart. **10**
   (b) Draw the timing diagram of 8086 read cycle and explain its operation. **10**

7. (a) Distinguish between Bus Interface Unit and Execution Unit of 8086. **5**
   (b) What do you mean by "Segmentation" ? What are the advantages of using segmented memory ? **5**
   (c) Explain addressing modes of 8086 microprocessor in detail. **10**

Bio-Medical (Rev)- V Th Dec 2009
Microprocessors
11/12/09

VT-II-09-62

Con. 5318–09. (REVISED COURSE) SP–8585

(3 Hours) Total Marks : 100

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable** data if **necessary**.

1. Solve any **four** :– **20**
   (a) Draw and explain timing diagram for HALT instruction.
   (b) Write a program to add two 16 bit numbers using 8086.
   (c) Explain data types supported by 8087.
   (d) Explain 8289 bus arbiter.
   (e) Explain string instructions of 8086.

2. (a) Explain basic 8085 microprocessor architecture and it's functional blocks. **12**
   (b) Write a program to find out largest number from series of five 16 bit numbers. **8**

3. (a) Explain 8086 interrupt structure. **16**
   (b) Explain memory segmentation in 8086. **4**

4. (a) Explain 8086 family maximum mode operation. **12**
   (b) Explain and draw timing diagram for 8086 maximum mode family. **8**

5. Interface two 4K x 8 EPROMS and two 4K x 8 RAM chips with 8086. Select suitable maps. **20**

6. Interface an 8255 with 8086 to work as an I/O port. Initialize port A as O/P port, port B as i/p port and port C as O/P port. **20**

7. (a) Draw and explain architecture of 8087 floating point co-processor. **12**
   (b) Write a program to find out area of circle using 8086 and 8087. **8**

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