

**0550**

**Code : 9EC-53**

Register Number 

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**V Semester Diploma Examination, November 2011**

**E & C BOARD**

**ADVANCED MICROPROCESSOR**

**Time : 3 Hours ]**

**[ Max. Marks : 100**

- Instructions :** (1) Section – I is compulsory.  
(2) Answer any two full questions from each of remaining Sections.

**SECTION – I**

1. (a) Fill in the blanks : 5
- (i) ICS of 8086 is \_\_\_\_\_ bytes long.
  - (ii) Data line used to read a byte at an odd address \_\_\_\_\_.
  - (iii) XLAT instruction always translates contents of \_\_\_\_\_ register.
  - (iv) Inter IC bus standard is called as \_\_\_\_\_ bus.
  - (v) USART used for serial communication is \_\_\_\_\_.
- (b) List the features of 8088. 5

**SECTION – II**

2. (a) With the help of block diagram explain the architecture of 8086. 8
- (b) Describe flag register with necessary bit format figure. 7
3. (a) Calculate physical address if CS = 3240 H and IP = 5632 H. 3
- (b) Write instruction formats for MOV DL, [BX] & MOVAX, CX 6
- (c) Narrate string addressing mode and direct port addressing mode with example. 6

**[Turn over**

4. (a) Explain the following instructions : 8  
 (i) ROL  
 (ii) AAD  
 (iii) CWD  
 (iv) JMP WARDPTR [BX]
- (b) Write an ALP to find smallest of 5 bytes. 4
- (c) Define Macro and assume. 3

### SECTION – III

5. (a) Draw and explain bus timing diagram of read operation in minimum mode. 9  
 (b) What is debugger ? 2  
 (c) Explain the process of assembling. 4
6. (a) Explain interrupt vector table with necessary diagram. 7  
 (b) Explain interrupt priorities. 5  
 (c) List any three features of 8251. 3
7. (a) Briefly explain operating modes of 8253. 7  
 (b) Draw and explain functional block diagram of 8257. 8

### SECTION – IV

8. (a) Explain memory hierarchy. 5  
 (b) Explain the concept of superscalar issue of instruction. 5  
 (c) What are the advantages of memory segmentation ? 5
9. (a) Explain in brief pipeline hazards. 8  
 (b) Define ILP. Describe classification of ILP. 7
10. (a) List features of Pentium IV. 6  
 (b) With the help of a diagram explain the process of data transmission and reception using RS 232C. 9

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**V Semester Diploma Examination, May 2012****E & C BOARD****ADVANCED MICROPROCESSORS****Time : 3 Hours ]****[ Max. Marks : 100****Instructions :** (1) Section – I is compulsory.

(2) Answer any two full questions from each of the remaining sections.

**SECTION – I**

1. (a) Fill in the blanks : 5
- (i) ST status line of 8086 is multiplexed with \_\_\_\_\_.
- (ii) 8259A supports \_\_\_\_\_ Interrupts.
- (iii) Pentium pro contains \_\_\_\_\_ addresslines.
- (iv) Centronics is \_\_\_\_\_ bus standard.
- (v) NMI is \_\_\_\_\_ triggered Interrupt.
- (b) Write short note on Virtual Memory. 5

**SECTION – II**

2. (a) With block diagram explain the architecture of 8086 10
- (b) If CS = 1000H and Ip = 2000H Find the address of the next instruction executed by 8086. 5
3. (a) Explain the following addressing modes with example : 6
- (i) Based Indexed Addressing
- (ii) Implicit Addressing.
- (iii) Immediate Addressing
- (b) What is the response of a processor when an interrupt occurs ? 6
- (c) Write the 8086 Instruction format. 3

**[Turn over**

4. (a) Explain any four types of Assembler directives and give example for each. 8  
 (b) Explain the operation of following Instructions : 4  
 (i) RCR BL, CL  
 (ii) LDS BX, [5300]  
 (c) Explain the need of 8087 co-processor. 3

### SECTION - III

5. (a) Write an Ahp to convert ASCII code to BINARY code. 6  
 (b) Briefly explain procedure for execution of Assembly language program. 6  
 (c) List the ways of accessing Hardware of IBMPC or compatibles. 3
6. (a) Draw and Explain functional block diagram of 8253. 8  
 (b) Write the control word format of 8255. 7
7. (a) Write the Internal block diagram of 8251 and explain. 7  
 (b) Explain the function of the following registers in 8259 : 6  
 (i) IRR  
 (ii) IMR  
 (iii) ISR  
 (c) List the different DMA modes of operation 8257. 2

### SECTION - IV

- (a) Explain MMU with neat diagram. 6  
 (b) Compare paging segmentation. 6  
 (c) List the different memory hierarchy. 3
- (a) Compare 80286 with 80386 5  
 (b) List the features of Intel Pentium pro. 5  
 (c) Explain different types of pipeline Hazards. 5
- (a) Explain USB topology with diagram. 7  
 (b) Describe the RS-232 standard signals. 6  
 (c) What is the need of Bus standard ? 2

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**V Semester Diploma Examination, Nov./Dec., 2012****E & C BOARD****ADVANCED MICROPROCESSORS****Time : 3 Hours ]****[ Max. Marks : 100**

- Instructions :** (1) Question No. 1 is *compulsory*.  
(2) Answer any two questions from remaining Sections:

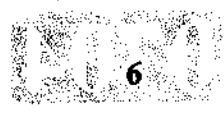
**SECTION - I**

1. (a) Fill in the blanks : **5**
- RS-232 bus standard is used for \_\_\_\_\_ transmission.
  - \_\_\_\_\_ is having lowest interrupt priority.
  - In 8086 operation mode is decided by \_\_\_\_\_ pin.
  - The 8237 DMA controller supports \_\_\_\_\_ DMA channels.
  - The 8086 has \_\_\_\_\_ numbers of address lines.
- (b) Explain Universal Serial Bus. **5**

**SECTION - II**

2. (a) Explain the functional block diagram of 8086. **10**
- (b) Explain with example how to calculate the physical address of a memory location. **5**
3. (a) Explain the timing diagram of OS. Write bus cycle in minimum mode configuration. **7**
- (b) Explain various flags of 8086. **8**

**[Turn over**



4. (a) Explain the following Assembler directives with example : 6
- (i) DD
  - (ii) ASSUME
  - (iii) LENGTH
- (b) List the features of 8087 Co-processor. 5
- (c) Explain the following instructions : 4
- (i) XLAT
  - (ii) LOCK

**SECTION – III**

5. (a) Write an ALP to find the smallest of five numbers. 6
- (b) Briefly explain the following : 6
- (i) Assembler
  - (ii) Linker
- (c) What are BIOS routines ? 3
6. (a) Draw and explain functional block diagram of IC 8253. 9
- (b) Explain the different modes of operation of IC 8255. 6
7. (a) Write an ALP to convert Hex to ASCII. 7
- (b) Write the interrupt vector table of 8086 and explain. 6
- (c) Mention the difference between DOS and BIOS interrupts. 2

**SECTION – IV**

8. (a) Draw and explain the architecture of Advanced Microprocessor. 10
- (b) What is Pipelining ? Explain superscalar issue of instructions. 5
9. (a) Explain floating point unit with diagram. 6
- (b) List the advantages and disadvantages of segmentation. 5
- (c) List the features of Pentium-IV processor. 4
10. (a) Describe the signals of RS-232. 6
- (b) Write note on I<sup>2</sup>C Bus standard. 5
- (c) List the applications of USB. 4