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BIEL-015

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00583

Term-End Examination

June, 2018

BIEL-015 : MICROPROCESSOR AND ITS APPLICATIONS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any* ***seven*** *questions. Assume suitable messing data, if any.*

1. (a) Explain the difference between machine language and assembly language of the 8085 microprocessor. *5*

(b) What is an instruction ? Explain functional categories of the 8085 instructions. *5*

2. (a) Explain the addressing modes of the 8085 microprocessor with example. *5*

(b) Write the instruction format, addressing modes and types of instructions. *5*

3. Write an assembly language program to count the number of odd numbers and the number of even numbers in an array of N-members. The N is available in memory X. The array starts from X + 1. Store the number of odd numbers in memory X + N + 1 and even in memory X + N + 2. Assume X to be 2500H and write the program from memory 2000H. *10*

4. Draw the 8085 timing diagram for execution of the 2 byte instruction MVI A, 32H. Assume two machine codes 0011 1110 (3EH) and 0011 0010 (32H) are stored in memory locations 2000H and 2001H respectively. *10*

5. (a) Draw the schematic to implement the 8085 interrupts and explain the issues in implementing interrupts. *8*

   (b) What are the RST instructions in 8085 microprocessor ? *2*

6. (a) Explain the accumulator bit pattern interpretation for the set interrupt mask and read interrupt mask instruction. *8*

   (b) Write briefly about software and hardware interrupts. *2*

7. (a) Describe in detail about the 8155 I/O ports in handshake mode with neat figures. *8*

(b) Briefly differentiate between asynchronous and synchronous data transmission. *2*

8. (a) Draw and explain the block diagram of programmable interrupt controller 8259A. *8*

(b) What is the difference between the burst and cycle stealing mechanism in DMA ? *2*

9. Draw and explain interfacing on 8-bit A/D converter using status check and give the flow chart of A/D conversion process. *10*

10. Write short notes on any ***two*** of the following : *2×5=10*

(a) Segment registers with example

(b) Maximum mode 8086 system I/O interface

(c) Comparison of 8085, 8086 and 8088 microprocessors
