00388

BIEL-015

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

Term-End Examination
December, 2015

BIEL-015 : MICROPROCESSOR AND ITS APPLICATIONS

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt any **seven** questions. Question no. 1 is* *compulsory. Assume suitable missing data, if any. All questions carry equal marks.*

1. (a) Find how flags are affected by an instruction, with an example.

   (b) Write some important aspects of the instruction set.

   (c) Distinguish between HLT and HOLD states.

   (d) What is the role of DMA controllers in microprocessor based system ?

   (e) Differentiate between 8085 and 8086 microprocessors.   *5×2=10*

2. (a) Draw the general architecture of a microprocessor and explain its various sub-systems.

(b) Explain about the history, evolution and types of microprocessors. *5+5=10*

3. (a) What do you understand by addressing modes ? Explain different addressing modes of 8085.

(b) Explain various interrupts of 8085 microprocessor and their functionality. *5+5=10*

4. (a) Draw and discuss the architecture of 8155 for parallel data transfer.

(b) Write an assembly language program for 8085 microprocessor to transfer 100 numbers stored from locations 2000H to locations starting from 2020H. *5+5=10*

5. (a) Draw and explain 8257 DMA controller's operation with a neat diagram.

(b) Explain the following instructions and their uses :

(i) LODSB

(ii) CMPSW *5+5=10*

6. Discuss the operation of asynchronous and synchronous data transfer using 8251A. Specify the control word and status word of it. **10**

7. (a) Differentiate between 8086 and 80186 microprocessors as per their architecture and operation principle.

(b) What do you mean by pipelined architecture ? How is it implemented in 8086 ? **5+5=10**

8. (a) Discuss the brief the comparison of contemporary 8-bit microprocessors like Z-80, M68000 with 8085.

(b) Draw the timing diagram for Interrupt acknowledgement machine cycle. **5+5=10**

9. (a) Explain the need of program counter (PC) and stack pointer (SP) in an 8085 microprocessor.

(b) Differentiate between Maskable Interrupt and Non-maskable Interrupt. Also explain how masking and unmasking is made. **5+5=10**

10. Write short notes on any *two* of the following : $2\times5=10$

(a) Daisy Chaining

(b) Interfacing D/A Converter

(c) Segment Registers and Memory Segmentation

(d) Macros, Labels and Directives

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