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BICS-012

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)
Term-End Examination
December, 2015

BICS-012 : MICROPROCESSOR

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt any **seven** questions. Question no. 1 is **compulsory**. All questions carry equal marks.*

1. Answer the following questions :   5×2=10

    (a) Differentiate between microprocessor and microcontroller.

    (b) What is an instruction queue ? Explain.

    (c) What is REP prefix ? How does it function for string instructions ?

    (d) What is a parallel processor ?

    (e) What are flags in 8086 ?

2. (a) Describe the main advantages of multi-programming system over uni-programming system.   *5*

    (b) What do you mean by bus de-multiplexing and buffering in 8086 ?   *5*

3. Describe the series of actions that a DMA controller will perform after it receives a request from a peripheral device to transfer data from the peripheral device to memory with the help of a timing diagram. *10*

4. (a) Draw the internal architecture of the 8086 microprocessor. Explain BIU and Execution Unit. *5*

(b) What are the different addressing modes and instruction set for 8086 ? *5*

5. Explain the following instructions related to 8086 : *10×1=10*

(a) LOOP

(b) AAM

(c) MUL

(d) CMPSB

(e) CBW

(f) DAA

(g) JCXZ

(h) MOVSW

(i) INT

(j) AAD

6. What is software interrupt and hardware interrupt ? How many hardware and software interrupts can 8086 support ? Describe in detail. *10*

7. Discuss the software and hardware features of 80486 microprocessor. *10*

8. (a) What is the major difference between an 8086 operating in minimum mode and an 8086 operating in maximum mode ? *5*

    (b) Why are buffers often needed on the address, data, and control buses in a microcomputer system ? *5*

9. Explain the working of 8255A with a neat block diagram. Also explain the various modes of 8255A. *10*

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

    (a) 8254 as a Counter

    (b) VSART

    (c) Addressing Modes in 8086

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