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BIEE-015

B.Tech. – VIEP – ELECTRICAL ENGINEERING (BTELVI)

Term-End Examination

00303 **December, 2018**

BIEE-015 : MICROPROCESSOR AND ITS APPLICATIONS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions in all. Each question carries equal marks. Use of scientific calculator is permitted.*

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1. (a) Differentiate between microprocessor and microcontroller. Also mention their applications. *6*

(b) Explain various functions of ALU. *4*

2. (a) Define a bus. How is demultiplexing of address and data bus done in 8085 microprocessor ? *6*

(b) What are the advantages and disadvantages of assembly language ? *4*

3. Clearly differentiate between 8085 and 8086 microprocessors with reference to the following : *10*

   (i) Memory

   (ii) Address/Data bus

   (iii) Segment of memory

   (iv) Multiuser environment

4. Write short notes on the following :

   (a) Instruction set of 8086 *5*

   (b) Dual-core processor *5*

5. (a) Explain in detail the interfacing of 8259 with 8085 microprocessor giving the pin details of 8259. *5*

   (b) What is meant by DMA ? What is the need of DMA transfer ? *5*

6. (a) Explain the operational difference between the following pairs of instructions : *6*

      (i) SPHL and XTHL

      (ii) CALL and JMP

      (iii) INRA and ADOIH

   (b) Distinguish between *4*

      (i) Maskable and Non-maskable interrupts

      (ii) Macro and Subroutine

7. (a) Draw the diagram of interrupt structure of 8085 microprocessor. 5

(b) What is Stack ? Explain "PUSH PSW and POP PSW" instructions with the help of examples. 5

8. (a) What is memory segmentation in 8086 microprocessor ? Also, write its main advantages. 5

(b) Draw the architecture of 8086 microprocessor and explain the pipelining concept used in 8086. 5

9. (a) Explain the maximum and minimum modes of 8086 microprocessor. 5

(b) Explain the different data transfer techniques using 8155. 5