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BIEE-015

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

00982 **Term-End Examination**

December, 2017

BIEE-015 : MICROPROCESSOR AND ITS APPLICATIONS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. Assume missing data, if any. Use of scientific calculator is permitted. All questions carry equal marks.*

1. (a) Draw a block diagram of a microprocessor based system and explain the function of each component. 5

(b) Explain the difference between Machine language, Assembly language and High Level language. 5

2. (a) What is an Assembler ? 5

(b) Explain the operation of the following instructions : 5

(i) INR-R (ii) SUB-M

3. (a) What is the function of ALU ? *5*

(b) Calculate the address lines required for an 8k-byte (1024 × 8 = 8192 registers) memory chip. Further, with 16 address lines, how many memory locations can be addressed ? *5*

4. (a) What is Flag ? Explain the various flag registers of 8085. *5*

(b) Discuss the method of generating physical address in 8086 microprocessor. Give the address range that 8086 can use. *5*

5. Explain the internal block diagram of 8086 microprocessor. How can it be used in minimum mode and maximum mode ? *10*

6. Draw a block diagram of the 8259, and explain its working. *10*

7. (a) Write the difference between Stack and Stack Pointer. How does stack operate ? *5*

(b) What is a Subroutine ? Explain two instructions of the 8085 microprocessor to implement subroutines. *5*

8. (a) What are the sources of interrupts ? What happens when an interrupt is encountered ? *5*

(b) Explain the addressing modes used in 8086. *5*

9. Explain how 8254 can be used as a square wave generator. Write an 8085 assembly code for it. *10*

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

(a) Difference between 8086 and 8088

(b) Digital-to-Analog Converter

(c) DMA Operation