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BIEE-015

00722

B.TECH. - VIEP-ELECTRICAL ENGINEERING

Term-End Examination

December, 2011

BIEE-015 : MICROPROCESSOR AND APPLICATIONS

Time : 3 hours *Maximum Marks : 70*

*Note : Answer **any seven** questions. Each question carries **ten** Marks.*

1. Discuss the evolution of computers and hence microprocessors, from large computers to single-chip microcomputers. **10**

2. Draw the 8085A Microprocessor functional Block diagram. Explain the architecture and the functions of various resources. **10**

3. The instruction Mov C,A (code 4FH) is stored at memory location 2005 H. The accumulator has data byte 7AH Illustrate the execution of the instruction and calculate the execution time, if the system clock frequency is 2MHz. Assume 4T states. **10**

4. Write an assembly language program for a railway crossing signal with two flashing lights run by a microcomputer one light is connected to data bit D_0 and the second light is connected to bit D_1. Write a program to turn each signal light alternately on and off at an interval of 1S, if the clock period of the microcomputer is 0.5 MS. **10**

5. Explain a successive approximation Analog to Digital converter with the aid of a block diagram. Illustrate conversion process for a 4 Bit data. **10**

6. Explain the architecture of a typical 16 bit 8086 microprocessor. Explain the role of segment registers, queue and instruction pointer. **10**

7. What do you understand by Immediate Addressing Mode and Register Addressing Mode with respect to 8086 BIU. **10**

8. Draw the pin configuration and block diagram for 8253 programmable Interval Timer. Briefly explain the significance of control logic and control word. **10**

9. Draw and explain the Internal Architecture of a Zilog Z-80 Micro-processor. What are the peripherals supporting this processor ? **10**

10. Write short notes on *any two* : 2x5=10

(a) 8085 Bus structure

(b) Interrupts of 8085

(c) 8255 PPI