B.Tech. ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00484

Term-End Examination

June, 2014

BIEL-008 : MICROCONTROLLERS

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **seven** questions. Assume suitable missing data, if any.*

1. (a) Provide survey of Micro-processors and Micro-controllers.   5

 (b) What is RISC and CISC architecture ? Compare them.   5

2. (a) Sketch pin configuration of port 0 pins of 8051 and explain operations performed by these pins.   5

 (b) Draw a schematic diagram to interface external ROM and RAM to 8051 and explain how to access them.   5

3. Explain different Interrupts of 8051. Why are these required ? State how the priority of Interrupts in micro-controller can be altered by the programmer.   10

4. (a) Explain the operation performed by the following instructions : 5

   (i) MOVC A @A + DPTR

   (ii) MVL AB

   (iii) SWAP A

(b) Show the status of the CY, AC and P flags after execution of the following instruction : 5

   MOV A, # 38H

   ADD A, # 2FH

5. What is meant by stack ? Show how to use PUSH, POP with an example and also show stack pointer position after PUSH, POP operation. 10

6. Explain DTE, DCE terms and process of handshaking in RS-232 for serial connection with micro-controller. 10

7. Write a program to toggle all the bits of port 1 by sending the values 66H and BBH continuously. Put a time delay in between each issuing of data to port 1. 10

8. State the purpose of each bit of TCON register and also explain external interrupts of 8051 micro-controller. 10

9. What is SFR ? List and explain various SFRs for Timer of micro-controller with their description and addresses. 10

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

    (i)   Von-Neumann architecture

    (ii)   Addressing modes

    (iii) DC motor interfacing

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