

**B.E. DEGREE EXAMINATIONS: NOVEMBER 2009**

Fifth Semester

**ELECTRONICS AND INSTRUMENTATION ENGINEERING**

U07EI504: Microprocessor and Microcontrollers

**Time: Three Hours**

**Maximum Marks: 100**

**Answer ALL the Questions:-**

**PART A (10 × 1 = 10 Marks)**

1. The number of address lines required for 64 K RAM is  
A. 8                      B. 10                      C.16                      D.12
2. Which one is the non -maskable interrupt?  
A.INTR                      B.TRAP                      C.RST 7.5                      D.RST 6.5
3. Which instruction is used to implement 16 bit addition?  
A.ADD                      B.DAD                      C.DAA                      D.ADI
4. RAR instruction belongs to  
A. Direct addressing mode                      B. Indirect addressing mode  
C. Implicit addressing mode                      D. Register addressing mode
5. Which interfacing device is used to interface 8085 microprocessor to I/O device?  
A.8255                      B.8251                      C.8279                      D.8253
6. Which device acts as a timer?  
A.8251                      B.8279                      C.8259                      D.8253
7. 8051 is a  
A.16 bit micro controller                      B. 8 bit micro controller  
C. 32 bit micro controller                      D. None of the above
8. TMOD is a  
A.SFR                      B.PC                      C.DPTR                      D.None of the above
9. If RS=0 in LCD interface, then the selected register is  
A. Command Register    B.Data Register    C. Control Register    D. None of the above
10. DPTR is used as a stack pointer for accessing the  
A. Internal Memory    B. External Memory    C. Flash memory    D. None of the above.

**PART B (10 x 2 = 20 Marks)**

11. What is microprocessor & list two 8bit processors?

12. How the data & address lines are demultiplexed in 8085?
13. List the various instructions that are used to clear the accumulator.
14. What will be the state of the processor after executing HALT instruction?
15. What is the need for D/A converters?
16. What is USART?
17. What is the difference between microprocessor & microcontroller?
18. Explain PSW register in 8051
19. What are the applications of microcontroller?
20. What is baud rate?

**PART C (5 x 14 = 70 Marks)**

- 21 (a) Draw the architecture of 8085 and explain the function of each block

**(OR)**

- (b) What are interrupts? Explain the different types of interrupts in 8085. & Briefly explain interrupt operation

- 22 (a) (i) Discuss the various addressing modes of Intel 8085 with suitable examples (5)

- (ii) Explain the operations of DAD rp, CMP M, DAA (9)

**(OR)**

- (b) Write an assembly language program to arrange an array in ascending order

- 23 (a) With a neat block diagram explain the functional blocks of 8255 PPI

**(OR)**

- (b) With a neat block diagram explain the functional blocks of 8279

- 24 (a) Write brief notes on 1) PSW (6)

- 2) TMOD register (4)

- 3) IE register (4)

**(OR)**

- (b) Explain how serial communication takes place in 8051 microcontroller.

- 25 (a) Explain the stepper motor control using 8051 microcontroller.

**(OR)**

- (b) Explain how the LCD display is interfaced to 8051 microcontroller.

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