Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

****

**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec - 2016**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **10EI207 / 12EI217/EI237** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **MICROPROCESSORS AND MICROCONTROLLERS** | **Max. marks :** | **100** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Q. No.** | **Questions** | | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | |
| 1. | What is the use of parity flag in 8085 microprocessor? | | (1) |
| 2. | What is the purpose of an ALE signal? | | (1) |
| 3. | The \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ instructions are used for storing and retrieving the stack contents. | | (1) |
| 4. | What is meant by an addressing mode? | | (1) |
| 5. | What is debugging? | | (1) |
| 6. | What is polling? | | (1) |
| 7. | Name the flip-flop which controls the 8085 interrupt process. | | (1) |
| 8. | What is the internal ROM size of 8051 microcontroller? | | (1) |
| 9. | What are the advantages of a microcontroller over a microprocessor? | | (1) |
| 10. | An alternate function of port pin P3.3 in the 8051 is \_\_\_\_\_\_\_\_\_. | | (1) |
| **PART B(5 X 3= 15 MARKS)** | | | |
| 11 | Describe PUSH and POP instruction. | | (3) |
| 12 | Discuss the addressing modes of 8085 with suitable examples. | | (3) |
| 13 | Compare memory mapped I/O scheme and I/O mapped I/O scheme. | | (3) |
| 14 | Write the functional definition for strobed bidirectional bus. | | (3) |
| 15 | Draw the structure of 4X4 hex keyboard. | | (3) |
| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. |  | Describe in detail the architecture and functional block diagram of 8085 microprocessor | (15) |
| (OR) | | | |
| 17. |  | Sketch the timing diagram for the execution of MVI B, 05H Instruction. | (15) |
| 18. | a. | Explain the different addressing modes of 8085 with an example. | (8) |
| b. | Discuss the classification of instruction set in 8085. Explain each with an example. | (7) |
| (OR) | | | |
| 19. | a. | With a neat diagram explain the architecture of 8086 microprocessor. | (10) |
| b. | Explain about a typical DMA controller with a neat block diagram. | (5) |
| 20. |  | Draw the block diagram of programmable peripheral interface 8255 and discuss the modes of operation with control words. | (15) |
| (OR) | | | |
| 21. | a. | Sketch to interface 8085 with a 12V stepper motor. | (8) |
| b. | Write an Assembly language program to multiply two 8bit numbers. | (7) |
| 22. | a. | Brief about the internal memory organization of 8051 microcontroller. | (8) |
| b. | Explain in detail about the jump and call instructions of 8051. | (7) |
| (OR) | | | |
| 23. | a. | Explain the function of 8051 instructions for performing arithmetic, logical and data transfer operations with suitable examples. | (15) |
| 24. | a. | With a neat diagram, explain the keyboard interfacing with 8051 Microcontroller. | (8) |
| b. | Explain about Analog to digital converters using 8051 in detail with necessary diagrams. | (7) |
| (OR) | | | |
| 25. |  | Explain the application of microcontroller 8051 in pulse measurement. | (15) |

ALL THE BEST