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



**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **14EC2079** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MICROPROCESSORS AND MICROCONTROLLERS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | With a neat block diagram explain the architecture of 8085 processor. | CO1 | 15 |
| b. | Write an assembly language program to add two 8 bit numbers. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Explain briefly the various addressing modes of 8085 microprocessor. | CO1 | 10 |
| b. | Identify the addressing modes of the following instructions  i. MOV A,B ii. LDA 4500 iii. MOV A,M iv. CMA v. MVI A,20H | CO1 | 10 |
| 3. | a. | Illustrate the Timing diagram for LDA 4500. | CO1 | 10 |
|  | b. | Sketch the Flag format of 8085 Microprocessor and explain each of its functions. | CO1 | 5 |
|  | c. | Write an assembly language program to move a block of 5 numbers from the memory location 4500H to 4600H. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | Illustrate the Timing diagram for STA 4600. | CO1 | 10 |
|  | b. | Explain the different classification of 8085 Instructions with examples. | CO1 | 10 |
| 5. | a. | With a neat block diagram explain the architecture of 8081 controller. | CO2 | 14 |
|  | b. | Compare Microprocessor and Microcontroller. | CO2 | 6 |
| (OR) | | | | |
| 6. | a. | Explain the various modes of operation of Timers in 8051. | CO2 | 12 |
|  | b. | Calculate the value to be loaded into the timer’s registers if we want to have a time delay of 5 ms (milliseconds)? | CO2 | 8 |
| 7. | a. | Explain the various modes of operation in the serial communication of 8051. | CO2 | 15 |
|  | b. | Write an Assembly language program to multiply of two 8 bit numbers using 8051 microcontroller. | CO2 | 5 |
| (OR) | | | | |
| 8. | a. | Analyze how port 0 of 8051 serves as input, output and bi-directional low order address and data bus for external memory with neat diagram. | CO2 | 15 |
|  | b. | Write down the various Interrupt sources of 8051 Microcontroller. | CO2 | 5 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explicit briefly with a neat sketch how 8051 microcontroller can be Interfaced with a stepper motor. | CO2 | 10 |
|  | b. | Sketch and discuss the features of sensor interfacing and signal conditioning diagram. | CO2 | 10 |

ALL THE BEST