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

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**End Semester Examination – Nov/Dec – 2018**

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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. |  | Interpret the operation of MOV A, B instruction graphically using Timing Diagrams. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | With a neat diagram, explain the architecture of 8085 Microprocessor and explain the function of each block. | CO1 | 15 |
| b. | Identify the addressing modes for the following instruction in 8085 Microprocessor  MVI A, 08  RAR  ADD M  LDA 4500  MOV B,A | CO2 | 5 |
|  |  |  |  |  |
| 3. | a. | Write an ALP to transfer a block of 10 numbers from memory location 4200 to the memory location 4600. | CO2 | 10 |
| b. | Write an ALP to convert a hexadecimal number to decimal number. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Write an ALP using 8051 microcontroller to multiply two 8 bit numbers and display the result in memory address 4500H. | CO2 | 5 |
| b. | Summarize the different groups of instructions supported by 8051. Explain them with suitable examples. | CO1 | 15 |
|  |  |  |  |  |
| 5. |  | Write a assembly level programme in 8051 to generate a square waveform of 1kHz and a sawtooth waveform of 50Hz using a crystal frequency of 12MHz. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | With a neat diagram, explain the architecture of 8051 Microcontroller. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | Design a circuit to interface LCD display with 8051 microcontroller. Write an assembly language program to display “HELLO”. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Draw the schematic to interface 8 LEDs with 8051 microcontroller through 8255 programmable peripheral interface. Write an assembly language program to glow the LED. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Describe the addressing modes of 8051 Microcontroller. | CO2 | 10 |
| b. | Explain the serial communication interface in 8051 Microcontroller. | CO3 | 10 |