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 – April/May – 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 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 |
| (OR) | | | | |
| 2. | a. | Use successive subtraction method to write a program to divide two 8 bit numbers and display the result in memory address 4500H. | CO2 | 10 |
| b. | Draw the timing diagram for MVI A,32. | CO2 | 10 |
| 3. | a. | Differentiate a Timer and Counter. | CO1 | 4 |
|  | b. | Discuss about the Assembler directives. | CO2 | 6 |
|  | c. | Describe the port/pin configuration of 8051 Microcontroller. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Summarize the different groups of instructions supported by 8051. Explain them with suitable examples. | CO2 | 15 |
|  | b. | Compare Microprocessor and Microcontroller. | CO1 | 5 |
| 5. |  | With a neat diagram, explain the architecture of 8051 Microcontroller. | CO1 | 20 |
| (OR) | | | | |
| 6. | a. | Write a program to create a square wave of 50% duty cycle on bit 0 of port 1. | CO2 | 10 |
|  | b. | Describe the addressing modes of 8051 Microcontroller. | CO2 | 10 |
| 7. | a. | Give the control logic operation in 8051 timer and explain its diiferent modes of operation. | CO3 | 10 |
|  | b. | Explain the serial communication interface in 8051 Microcontroller. | CO3 | 10 |
| (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. |  | Design a circuit to interface LCD display with 8051 microcontroller. Write an assembly language program to display “HELLO”. | CO3 | 20 |

ALL THE BEST