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 :** | **14EC2009** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MICROPROCESSOR AND INTERFACING TECHNIQUES** | **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. | Discuss the various instruction set in 8085. Give two examples for each. | CO1 | 15 |
| b. | Demonstrate with diagram, how the four control signals can be generated from 8085 pins. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Consider the operating frequency of 8085 is 2MHz. Calculate how much time needed for the execution of following instructions   1. STA 4500h 2. MVI A, 04h 3. ADD B 4. MOV B,C | CO1 | 8 |
| b. | Describe the functional block diagram of 8085. | CO1 | 12 |
| 3. | a. | Design a memory system for the 8085 microprocessor such that it should contain 8 Kbyte of RAM and 4 Kbyte of EPROM. How memory mapped I/O differs from I/O mapped I/O. | CO3 | 15 |
|  | b. | Write 8085 instructions to count the number of ‘01’ from the given array [02,01,04,01] | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | Design a system for the 8085 microprocessor to connect4 LEDs and 4 switches. | CO3 | 15 |
|  | b. | Review the program, to predict the value of Accumulator and also to indicate the status of sign Flag, carry flag and zero flag.  MVI A, 54  ANA F0  RRC  RRC  RRC  RRC  ADI 02 | CO1 | 5 |
| 5. | a. | Sketch the block diagram of 8255 Programmable peripheral Interface and explain each block in detail. | CO3 | 15 |
|  | b. | Write the assembly language program to make the led which is connected to port C0 and port C1 on and off for some delay. | CO3 | 5 |
| (OR) | | | | |
| 6. | a. | Illustrate how 8251 is used as programmable communication interface with neat block diagram. | CO3 | 15 |
|  | b. | Write 8085 instructions to generate a 2KHz square wave from counter 1 of 8253 if the clock frequency of 8253 is 2MHz. | CO3 | 5 |
| 7 | a. | Discuss the functions of each block of 8086 microprocessor in detail, with neat block diagram. | CO2 | 15 |
|  | b. | Identify the 8086 addressing modes of 8086 for the given instructions.   1. MOV AL,12 2. MOV AL,BL 3. MOV[1000],AL 4. MOV DL,[SI] 5. MOV AX,[BX+0004] | CO2 | 5 |
| (OR) | | | | |
| 8. |  | Write assembly language program in 8086 for the following.   1. To find factorial of any number. 2. To find 2’s complement. 3. To multiply two words.(16 bits) | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | List out the features of PENTIUM processor. | CO3 | 10 |
|  | b. | Discuss with neat diagram, how 8086 works in minimum and maximum mode configuration. | CO2 | 10 |

ALL THE BEST