**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**
**B. Tech III Year II Semester Examinations, February/March - 2022**
**MICROPROCESSORS AND MICROCONTROLLERS**
(Common to EEE, MCT)

**Time: 3 Hours**　　　　　　　　　　　　　　　　　　　　　　　　　　**Max. Marks: 75**

**Answer any five questions**
**All questions carry equal marks**
**- - -**

1.a) With the help of neat block diagram, explain the internal architecture of 8086 microprocessor.
 b) Explain the significance of memory segmentation. [10+5]

2.a) Explain the functionality of pins used in the minimum mode of 8086 microprocessor.
 b) Write an ALP to add two 16bit numbers with carry. [8+7]

3.a) Describe the operation of timers present in 8051 microcontroller.
 b) List the various registers present in 8051 microcontroller and explain with an example.
 [7+8]

4.a) Explain how the 8051 microcontroller transfers the data using serial port.
 b) List various addressing modes of 8051 microcontroller and explain them with an example each. [7+8]

5.a) With the help of a neat diagram, show the interfacing of LCD Display with 8051 microcontroller and explain its operation.
 b) List instruction command codes for programming an LCD. [9+6]

6. Explain with all necessary sketches to enable intra communications among peripherals using I2C bus. [15]

7.a) Explain about the different exceptions in ARM processors.
 b) Draw and explain the structure of program status registers. [8+7]

8.a) Explain register formats used for data processing in Cortex processor.
 b) Explain Memory processing and commands used in OMAP processor. [8+7]

**---ooOoo---**