

Code No: 138GK**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year II Semester Examinations, September - 2020****MICROPROCESSORS AND MICROCONTROLLERS****(Computer Science and Engineering)****Time: 2 hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks****- - -**

1. Explain the various addressing modes of 8086 microprocessor with examples. [15]
- 2.a) Draw the read and write cycle timing diagrams of 8086 in minimum mode.
b) Give the functionality of the following assembler directives of 8086 microprocessor:
i) DW ii) SEGMENT iii) PROC and ENDP iv) DUP [10+5]
- 3.a) Discuss about TCON special function register with a diagram in 8051 microcontroller.
b) Write and explain different data transfer instructions of 8051. [7+8]
- 4.a) Write an ALP to generate the 1kHz square wave form using mode 1 timer programming.
b) Discuss about I/O ports of 8051 microcontroller. [7+8]
- 5.a) Draw the Internal RAM memory organization in 8051.
b) Draw the PIN diagram of RS-232 serial communication scheme and explain importance of each pin. [5+10]
- 6.a) Write short notes on serial communication standards.
b) Explain the interfacing procedure of an 8-bit ADC with 8086 microprocessor. [5+10]
- 7.a) Define Pipeline? Explain the Five stage pipeline concept in ARM processor.
b) Explain the Thumb instructions of ARM processor. [7+8]
8. List the main features of OMAP processor. With a neat diagram, explain the architecture of OMAP processor. [15]

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