

Code No: 138GK**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year II Semester Examinations, July - 2021****MICROPROCESSORS AND MICROCONTROLLERS****(Common to CSE, IT)****Time: 3 hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

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- 1.a) Discuss the programming model of 8086.
- b) Mention about the local directive used in a macro sequence with an example. [8+7]
- 2.a) Distinguish between the loop instructions and string instructions of 8086.
- b) Write about the memory addresses and physical memory organization of 8086. [8+7]
- 3.a) Explain the functional blocks of 8051 microcontroller.
- b) Discuss IE and IP registers format of 8051. [8+7]
- 4.a) Discuss about the programming timers and counters in 8051 applications.
- b) Write about interrupts and serial port operation in 8051 microcontroller. [8+7]
- 5.a) Mention about the interfacing of RS232 and USB applications in 8051 applications.
- b) Explain the working principle of a D/A and A/D converters. [8+7]
- 6.a) Develop an interfacing diagram of interfacing LCD with 8051 μ C.
- b) Discuss the basic concept of UART serial communications interface. [8+7]
- 7.a) Discuss the features and basic functional structure of ARM processor.
- b) Discuss the single register and multiple register load-store thumb instruction set. [8+7]
- 8.a) Explain the memory system interrupt structure and exception support features of Cortex-M processor.
- b) Discuss the complete instruction set in ARM Cortex-M Processors in brief. [6+9]

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