Enroll No…………………..

EC-103

M.Tech.(DC)–I Sem. (Reg./ Ex.)

Examination, March-2021

Micro Controller System Design

Time: Three Hours

Maximum Marks:70

Note: Attempt any five questions. (Each question carries equal marks.)

Q.1　(a)　What do you mean by 8 bit and 16 bit microprocessors? Differentiate the two.

　　　(b)　Draw the schematic block diagram of 8086 microprocessor and explain the function of each block.

Q.2　(a)　Explain the concept of single chip micro computer. Comment on its architecture.

　　　(b)　What are the differences between microprocessor and microcontroller? Explain with suitable example.

Q.3　(a)　Draw architecture of 8051 microcontroller and explain it.

　　　(b)　Discuss the following signal descriptions of 8051.

　　　　　(i)　ALE/PROG　　　　(ii)　T0 and T1

　　　　　(iii)　RD　　　　　　　(iv)　WR

Q.4　(a)　Compare the advantages and disadvantages of data transfer using serial and parallel ports devices.

　　　(b)　Explain how Serial Peripheral Interface (SPI) can be used for data transfer.

Q.5　(a)　Explain the principle of integrated software development environment structure. Discuss its pros and cons.

　　　(b)　What are the different software development phases in a project?

Q.6　(a)　Explain the terms recursion and debugging in software development.

　　　(b)　Describe the PIC microcontroller architecture. List the innovative features with respect to 8051 architecture.

Q.7　(a)　What are the applications of microcontroller in data acquisition techniques? Explain any one of them.

　　　(b)　Give an overview of DSP processor architecture for digital signal processing.

Q.8　Write short notes on any two of the followings.

　　　(i)　TI-DPS

　　　(ii)　Instruction set of 8051

　　　(iii)　Object oriented interfacing

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