

Code No: **R32024**

R10

Set No. 1

III B.Tech II Semester Supplementary Examinations, April -2017
MICROPROCESSORS AND MICRO CONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 List some applications of microprocessors. With a neat diagram, explain the internal architecture of the 8086 microprocessor. [15M]
- 2 With neat circuit diagram and timing diagrams, explain the maximum mode operation of 8086 microprocessor. [15M]
- 3 a) Write an assembly language program in 8086 to arrange the given 16-bit hexadecimal numbers in descending order. [9M]
b) What are macros? Explain with examples. [6M]
- 4 a) With a neat block diagram, explain the operation of ADC 0808. [7M]
b) Interface digital to analog controller DAC AD7523 with an 8086 operating at 8 MHz and write an assembly language program to generate a triangular waveform of period 2 ms with V_{max} 5V. [8M]
- 5 Interface two chips of 32KX8 ROM and four chips of 32KX8 RAM with 8086 according to the following map. [15M]
ROM 1 and 2: F0000H – FFFFFH
RAM 1 and 2: D0000H – DFFFFH
RAM 3 and 4: E0000H – EFFFFH
Show the implementation of this memory system.
- 6 a) What are I/O ports? Explain its purpose. [6M]
b) Discuss the internal memory organization of 8051 microcontroller. [9M]
- 7 a) What is an instruction cycle? Explain. [5M]
b) List and explain different data and bit manipulation instructions of 8051 microcontroller with examples. [10M]
- 8 a) Explain the functioning of a seven segment display. [6M]
b) Explain the interfacing of a seven segment display to 8051 microcontroller. [9M]

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