

Code No: RT32021

R13

SET - 1

III B. Tech II Semester Supplementary Examinations, November/December – 2016
MICROPROCESSORS AND MICROCONTROLLERS
(Electrical and Electronics Engineering)

Time: 3 hours

Maximum Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

PART –A

- 1 a) Explain Bus interfacing Unit of 8086. [3M]
- b) What is meant by instruction pipelining? Is it available in 8086? Explain. [4M]
- c) Discuss any three assembler directives with examples. [4M]
- d) Explain the main features of 8225. [4M]
- e) Write the advantages of microcontrollers. [3M]
- f) Explain the applications of microcontrollers. [4M]

PART –B

- 2 What are the two functional units of 8086? Explain the architecture of 8086 with neat block diagram. [16M]
- 3 a) Discuss I/O map of 8086 with neat diagram. [8M]
- b) Explain the process of external synchronization using TEST'. [8M]
- 4 a) Explain the following assembler directives: [8M]
i) DB ii) EXTRNiii) LENGTHiv) OFFSET.
- b) Write an 8086 assembler program to decide the parity of a given number. The given number might be a multi-byte with a maximum length of 8 bytes. [8M]
- 5 a) Discuss the interrupt priority schemes used in 8259. [8M]
- b) Interface D to A converter DAC 0800with 8086 running at 8 MHz and write an ALP to generate a triangular wave of 1kHz frequency with V_{max} of 5V. [8M]
- 6 a) Draw and explain the flag register of 8051 microcontroller. [8M]
- b) Discuss the internal memory organization of 8051 microcontroller. [8M]
- 7 Discuss the keyboard interfacing with 8051 microcontroller. [16M]

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