

Roll No. 

Total No. of Pages : 01

Total No. of Questions : 08

**M.Tech.(ECE) EL-1 (2016 Batch) (Sem.-2)**  
**ADVANCED MICROPROCESSOR & EMBEDDED SYSTEMS**  
Subject Code : MTEC-204A  
Paper ID : [74281]

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1 Discuss the need of interrupts in microprocessor. Draw and Explain the Priority Interrupt controller 8259 interfaced with 8086 in cascade mode with suitable block diagram.
- Q2 What is DMA? Explain its significance in microprocessor. Which hardware pins of 8086 are used for DMA control? Draw and explain the architecture of 8257 DMA controller interfaced with 8086.
- Q3 Explain the memory organization of 8086 microprocessor. What is T state? Draw and explain the timing diagram of a typical memory read and write machine cycle in 8086.
- Q4 a) What is assembler directive? Explain the following assembler directives with an example :
- i) DW    ii) ASSUME
- b) Explain the following instructions with an example :
- i) CMP    ii) TEST
- Q5 What is the importance of addressing mode in a microprocessor? Explain various possible addressing modes used in 80186 with suitable examples.
- Q6 Explain the significance of I/O mapped I/O scheme in microprocessor. Draw and describe the interfacing of a D/A converter with 8086 microprocessor with neat block diagram.
- Q7 What is the need of embedded system? Draw and explain an embedded controller with its suitable block diagram in detail.
- Q8 What is stack? What are the advantage using stacks in microprocessor? Explain steps involved in a data transfer to or from the stack in 80186 with a suitable example.