

Roll No.

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(ECE) (E-I) (Sem.-2)
ADVANCED MICROPROCESSOR & EMBEDDED SYSTEMS
Subject Code : EC-510
Paper ID : [E0569]

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 a) What is the significance of following prefix in microprocessor 8086?
i) LOCK ii) REP
b) Explain the term '*Nested interrupt*' with an example.
- Q2. a) Explain the following terms in relation to 8259A.
i) EOI ii) Automatic rotation iii) Special Mask Mode
b) Explain the initialisation sequence of 8259A in detail.
- Q3. a) Explain the following signal descriptions of 8251.
i) TXRDY ii) SYNDY/BD iii) $\overline{\text{DTR}}$
b) Draw and discuss the synchronous mode transmit and receive data formats of USART 8251.
- Q4. Draw and discuss the status register of 8237 in detail. What are the advantages using 8237 for DMA operation. Compare its performance with 8257.
- Q5. What are the various addressing modes supported by microprocessor 80186? Explain five of them in detail. Enlist different instruction formats of 80186 with suitable example.
- Q6. Draw and discuss interrupt structure of 8086 in detail. Explain the interrupt response sequence of 8086 with a suitable example.
- Q7. What is the step voltage at the output of the DAC0830 if the reference voltage is- 2.55 V? Draw and explain an interface circuit for a DAC0830 to the 8086 so that it operates at I/O port 400H.
- Q8. How are data stored inside the coprocessor? Explain what the coprocessor does when a normal microprocessor executes the instruction. What coprocessor instruction uses the microprocessor's AX register?