



B.Tech III Year I Semester Supplementary Examinations, January 2023

MICROPROCESSORS AND MICROCONTROLLERS

Maximum Marks: 70

(EEE)

Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

- 1 What are the conditional and control flags of 8086 microprocessor?
- 2 Explain the different general-purpose registers of 8086 microprocessor.
- 3 Illustrate the different features of 8051 microcontroller.
- 4 Discuss about the various Interrupts supported by 8051 microcontrollers.
- 5 List out the important features of the A/D converter.
- 6 Draw the control word format of I/O mode of 8255PPI.
- 7 List out different features of ARM processor.
- 8 Explain how pipelining is used in ARM processor.
- 9 Outline the features of CORTEX processor.
- 10 Mention various advantages of OMAP Processors.

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 a) Explain the register set of 8086 microprocessors. 5M
b) Define Memory segmentation and list out the different segments in 8086 microprocessors in detail. 5M
- OR
- 12 a) Draw and explain the common function signals of 8086 microprocessor. 5M
b) List and describe different string manipulation operations of 8086 microprocessor with example. 5M
- 13 a) Describe RAM memory organization of 8051 microcontroller. 5M
b) Explain various registers of 8051 microcontroller 5M
- OR
- 14 a) Describe about Timer mode1 with neat sketch in 8051 microcontrollers. 5M
b) Explain the following instructions of 8051 microcontroller. 5M
i) MOV ii) SWAP iii) DEC iv) CJNE v) RRC
- 15 Draw and explain the architecture of 8255PPI with neat diagram. 10M
- OR
- 16 Write short notes on Onboard communication interfaces. Explain working of SPI Bus. 10M
- 17 Draw and explain ARM processor architecture. 10M
- OR
- 18 Explain in detail about Branch Instructions and Software Interrupt Instructions of ARM processor. 10M
- 19 Outline the classification, features and applications of ARM CORTEX processor. 10M
- OR
- 20 List out different classifications of OMAP processor and explain one type in detail. 10M

