



**B.Tech III Year II Semester Supplementary Examinations, June 2022**  
**MICROPROCESSORS AND MICROCONTROLLERS**  
(ECE)

Maximum Marks: 70

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 Explain the use of Parity Flag in 8086 microprocessor.
- 2 How to calculate the physical address of memory in 8086.
- 3 Draw TMOD register.
- 4 What are the advantages of microcontroller over microprocessor?
- 5 Write about EEPROM.
- 6 Write short notes on Asynchronous Serial data Transfer.
- 7 Write down the main features of ARM?
- 8 List Condition code flags in Current Program status register of ARM Processor.
- 9 Mention different types of CORTEX processor.
- 10 Classify OMAP Processors.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Explain the Architecture of 8086 Microprocessor with a neat sketch. 10M
- OR
- 12 List and Explain 8086 Microprocessor Data Transfer instructions with examples 10M
- 13 a) Draw the Pin diagram of 8051 microcontroller and explain each pin in detail. 5M  
b) Describe Memory Organization of 8051 microcontroller neatly. 5M
- OR
- 14 a) Explain Interrupt Structure of 8051 microcontroller. 6M  
b) Explain the Programming of Timer interrupt. 4M
- 15 a) Write short notes on Serial Communication standards. 5M  
b) What is I2C BUS? Discuss its working. 5M
- OR
- 16 What is the need of Digital to Analog Converter? Explain Interfacing of that D to A Converter with 8051 Microcontroller. 10M
- 17 What is the size of ARM Registers? Explain in Detail the Register set of ARM Processor. 10M
- OR
- 18 Explain Data Processing instructions of ARM. 10M
- 19 List the main features of CORTEX Processor. Explain registers of ARM Cortex processor. 10M
- OR
- 20 List the main features of OMAP Processor. With a neat diagram explain the architecture of OMAP Processor. 10M