



Regulation R18

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VI Semester Supplementary Examinations, January 2023

MICROPROCESSORS AND MICROCONTROLLERS

(ECE)

Maximum Marks: 70

10-01-2023

Duration: 3 Hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 10 questions. Answer any 5 questions which carries 12M.
 4. Each question carries 12marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 How to calculate the physical address of memory in 8086. Explain with one example.
- 2 Explain special function of general-purpose registers?
- 3 Draw the PSW Register of 8051 microcontrollers.
- 4 Draw TMOD register.
- 5 What are advantages of serial data transfer scheme?
- 6 Describe EEPROM.
- 7 List any 3 features of ARM.
- 8 Explain the flags available in CPSR in ARM.
- 9 Mention applications of CORTEX processor.
- 10 What are the advantages of OMAP Processors?

Part-B

Answer all the questions

(5X10M=50Marks)

- 11 Explain the Architecture of 8086 Microprocessor with a neat sketch. [10]
- OR
- 12 List and Explain 8086 Microprocessor Data Transfer instructions with examples. [10]
 - 13 Draw the Pin diagram of 8051 microcontroller and explain each pin in detail. [10]
- OR
- 14 Describe Memory Organization of 8051 microcontroller neatly. [10]
 - 15 Write short notes on Serial Communication standards and Explain I2C BUS working. [10]
- OR
- 16 Discuss the interfacing of 4X4 Keyboard to detect Key numbers with 8051 microcontroller. [10]
 - 17 Draw and Explain the Architecture of ARM Processor. [10]
- OR
- 18 a. Mention about the program Status Register instructions of ARM Processor. [5]
b. Explain Pipelining of ARM Processor. [5]
 - 19 Explain the main features of CORTEX Processor and explain functional diagram of CORTEX. [10]
- OR
- 20 Draw and explain the functional diagram of OMAP Processor. [10]

