



R18 Regulation

Subject code:207FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, December 2024

MICROPROCESSORS AND MICROCONTROLLERS (IT)

Maximum Marks: 70

Date:04.01.2025

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 which carries 10M.
 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		CO	Bloom Tx
1	Explain the use of Direction Flag and Parity Flag in 8086 microprocessor.	1	L1
2	What are addressing modes? Explain Register addressing mode of 8086 microprocessor with two examples.	1	L1
3	Explain the PSW Register of 8051 microcontroller.	2	L1
4	What are the advantages of microcontroller over microprocessor?	2	L1
5	Explain the importance of Memory interfacing in 8051.	3	L1
6	Compare Synchronous and Asynchronous serial communication in detail.	3	L1
7	Expand ARM. Write its applications.	4	L1
8	Explain the concept of Loading Constants in ARM Processor.	4	L1
9	What are applications of OMAP.	5	L1
10	Mention external interfacing on CORTEX Processor.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Explain the Architecture of 8086 Microprocessor with a neat sketch. [10M]	1	L2
OR			
12	List and Explain 8086 Microprocessor Data Transfer instructions with examples. [10M]	1	L2
13	With a neat diagram, describe the internal architecture of 8051 Microcontroller. [10M]	2	L2
OR			
14	Explain the Architecture of 8051 Microcontroller with a neat sketch. [10M]	2	L2
15	a) Explain Asynchronous transmission in serial mode. [5M] b) Write short notes on SPI Bus with neat diagram. [5M]	3	L2
16	Design the interfacing of external RAM with 8051 microcontroller with neat diagram. [10M]	3	L2

17	a) What are the Features of ARM Processor. [5M] b) Draw ARM Programming Model and explain it. [5M]	4	L2
	OR		
18	a) Describe ARM Processor Interrupt Vector Table. [5M] b) Explain LOAD and STORE instructions of ARM. [5M]	4	L2
19	List the main features of CORTEX Processor. With a neat diagram, explain the Architecture of CORTEX Processor. [10M]	5	L2
	OR		
20	List the main features of OMAP Processor. With a neat diagram explain the architecture of OMAP Processor. [10M]	5	L2