



R20 Regulation

Subject code: 306FC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, February 2024 MICROPROCESSORS AND MICROCONTROLLERS

(Information Technology)

Maximum Marks: 70

Date: 22.02.2024 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	Write the different logical instructions of 8086.		CO1	L1
2	When does the 8086 processor is in minimum mode and maximum mode?		CO1	L1
3	What is the function of Port 3 of 8051 microcontroller?		CO2	L1
4	What is the function of Timer?		CO2	L1
5	List out the important features of the A/D converter.		CO3	L1
6	Give the RS 232 Standard details.		CO3	L1
7	What is a program status register?		CO4	L1
8	Specify the Thumb instruction.		CO4	L1
9	What are the types of CORTEX-M series ?		CO5	L1
10	What are the features of OMAP processor.		CO5	L1

Part-B

Answer All the following questions.		(5X10M=50Marks)	CO	L2
11	A. Draw the Register organization of 8086 microprocessor and explain the operation of each register. 5M B. Discuss about different instruction formats of 8086 with examples. 5M		CO1	L2
	OR			
12	With a neat diagram explain the architecture of 8086 microprocessor. 10M		CO1	L2
13	Explain the instruction set of 8051 controller with suitable examples. 10M		CO2	L2
	OR			
14	A. State various modes available for timers in 8051. 5M B. Explain how interrupts are prioritized? 5M		CO2	L2
15	A. Explain the interfacing procedure of an 8-bit ADC. 5M B. Draw the internal architecture of 8255 PPI and explain its operation. 5M		CO3	L2
	OR			
16	Explain memory interfacing with neat diagram. 10M		CO3	L2

17	What are the different features of ARM instruction set that make it suitable for embedded applications. 10M	CO4	L2
	OR		
18	A. With a neat diagram, explain the different general purpose registers of ARM Processors. 5M B. What are interrupts? List different interrupts supported by the ARM processor. 5M	CO4	L2 L2
19	Explain the architecture of CORTEX processor with neat diagram. 10M	CO5	L2
	OR		
20	With a neat diagram, explain the architecture of OMAP processor. 10M 10M	CO5	L2