



R20 Regulation

Subject code:3E8DK

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VIII Semester Regular Examinations, April 2024

EMBEDDED C

(ELECTRONICS & COMMUNICATION ENGINEERING)

Maximum Marks: 70

Date:27.04.2024 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	List the key features of embedded C programming.	1	L3
2	Sketch the Two possible reset circuits for 8051-based designs.	1	L1
3	Draw a schematic representation of a switch connected to a port with internal pull-up resistors?	2	L1
4	Write the need for pull-up resistors.	2	L1
5	Define the Project Header.	3	L1
6	Write the Object-oriented programming with C.	3	L2
7	Write the applications of 8051?	4	L2
8	Write the procedure of Generating a precise 50 ms delay?	4	L2
9	Write the arming state in intruder alarm system?	5	L3
10	Define the intruder state.	5	L2

Part-B

Answer All the following questions. (5X10M=50Marks)			
11	A. Describe in detail about Extended 8051 devices. (5M) B. Distinguish between software development for desktop and embedded systems. (5M)	1	L3 L4
OR			
12	A. Draw the pin diagram of Atmel 8051 microcontroller and explain the function of each pin in detail. (5M) B. Explain about clock frequency and performance. (5M)	1	L3 L2
13	A. How to read bits from or write to an entire port. (5M) B. Justify the importance of Pull-up resistor concept in microcontroller. (5M)	2	L2 L5
OR			
14	A. Describe how to Deal with switch bounce. (5M) B. Explain the Basic Techniques for Reading from Port Pins. (5M)	2	L3 L2

15	A. Explain restructuring the goat-counting with example. (5M) B. Discuss Restructuring the Hello Embedded World using embedded C. (5M)	3	L2 L6
	OR		
16	A. Design a code for goat counting using file concept (OOPs concept). (5M) B. With an example illustrate the use of port header. (5M)	3	L6 L2
17	A. Develop an example on Testing loop timeouts. (5M) B. Describe how to create portable and easy to use delay code for the 8051 family. (5M)	4	L3 L3
	OR		
18	A. Explain how to create hardware delays using Timer 0 and Timer 1. (5M) B. Justify the need for 'timeout' mechanisms. (5M)	4	L2 L5
19	A. Discuss various aspects of "Intruder alarm system" with software architecture and key software components. (5M) B. Explain the sensor reading concept in intruder alarm. (5M)	5	L6 L2
	OR		
20	A. Explain the software Architecture of Intruder alarm system. (5M) B. Explain the Key software components used in Intruder alarm system. (5M)	5	L2 L2