Regulation R20 *Subject code: 3E5DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, February 2024

INTRODUCTION TO EMBEDDED SYSTEMS

(ECE)

Maximum Marks: 70 Date:27.02.2024 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.
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)

Q.NO	QUESTIONS	Marks	CO	Blooms Tx
1	What is embedded system	2M	CO1	L1
2	Justify NRE and Unit costs of general purpose processor to single purpose processor	2M	CO1	L2
3	What are the benefits of choosing a single-purpose processor over a general-purpose processor	2M	CO2	L2
4	List RT-Level combinational components.	2M	CO2	L1
5	Differentiate between types of memory architectures	2M	CO3	L2
6	Why Cache memory is referred as the fastest memory. Justify	2M	CO3	L2
7	State the purpose of computational model	2M	CO4	L1
8	Discuss Model Vs Language	2M	CO4	L2
9	List out the functional blocks of mobile phone	2M	CO5	L1
10	Justify the name RFID in terms of the functionality of the system	2M	CO5	L2
	Part-B			
	Answer All the following questions. (10M X 5=50Marks)			
11	Explain the characteristics involved in embedded systems that distinguishes it from other computing systems.	10M	CO1	L2
	OR			
12	List and define three main processor technologies. What are the benefits of using each of these three different processor technologies?	10M	CO1	L3
13	Design a custom single purpose processor to execute GCD.	10M	CO2	L5
	OR			
14	Explain the concept of Optimization and explain any one aspect of optimization with an example.	10M	CO2	L3
15	List in detail about all programmer's consideration that a programmer must be aware of.	10M	CO3	L4
	OR			

16	Write in detail about the design flow for programming, depict with standard software development process	10M	CO3	L5
17	Draw and explain the state machine for elevator Unit Control .	10M	CO4	L3
	OR			
18	Illustrate the concept of concurrent process model with typical examples of embedded systems.	10M	CO4	L4
19	Explain in detail about application of Automotive Electronics with respect to embedded system,	10M	CO5	L4
	OR			
20	Give a detail note on various Biomedical Applications which supports embedded systems.	10M	CO5	L3