R20 Regulation *Subject code: 3O6DA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Regular/Supplementary Examinations, July 2024

EMBEDDED SYSTEMS

((CSE(DS))

Maximum Marks: 70 Date:30.07.2024 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	Name some of the hardware components of Embedded system.	CO1	I
2	Differentiate Microprocessor and Microcontroller.	CO1	I
3	Compare fixed and programmable logic devices.	CO2	II
4	Mention the role of brown out protection circuit in embedded system.	CO2	I
5	Give the major processor selection criteria for an embedded system.	CO2	I
6	List some of the disadvantage of Java in Embedded Systems development.	CO2	I
7	Differentiate pre-emptive and non-pre-emptive multitasking.	CO3	II
8	When is RTOS necessary and when it is not necessary in Embedded system?	CO3	II
9	List out the types of protocols used in socket functions	CO4	I
10	Define Remote Procedure Call	CO4	I
	Part-B		
Answer All the following questions. (5X10M=50Marks)			
11	Present a detailed classification of embedded systems with examples. [10]	CO1	III
	OR		
12	Mention the various applications of an embedded system and explain in detail. [10]	CO1	II
13	Write short notes on the following: (a) Application specific integrated circuits (b) Programmable logic devices. [10]	CO2	II
	OR		
14	Describe the two approaches for Embedded Firmware Design. [10]	CO2	III
15	Classify and explain any two onboard communication interfaces. [10]	CO2	III
	OR		
16	Write an elaborate note on External Communication Interfaces. [10]	CO2	III
17	Explain in detail about multiple processes and threads with an application. [10]	CO3	III
	OR		

18	With an example describe the different methods of Task scheduling algorithm. [10]	CO3	III
19	What is meant by shared data? Explain the various problems present in shared data. How can it be overcome? [10]	CO4	IV
	OR		
20	Give an account of the requirements that needs to be evaluated during the selection of RTOS. [10]	CO4	III