



Regulation R18

Subject code: 2E8DG

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VIII Semester Supplementary Examinations, April 2024

EMBEDDED SYSTEMS

(ECE)

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.
 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)

- 1 Define an Embedded System.
- 2 Write the disadvantages of embedded system.
- 3 What are the languages used in embedded system?
- 4 What is an ASIC?
- 5 Define real time clock.
- 6 Write the bottlenecks in embedded industry?
- 7 What are the basic functions of Real time kernel?
- 8 Define process control block?
- 9 Define deadlock?
- 10 Define task synchronization?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Explain the different characteristics of embedded systems in detail. [10]
OR
- 12 What is the non-operational quality attribute? Explain the important non-operational quality attributes to be considered in any embedded system? [10]
- 13 Explain the role of Watch dog Timer & Brown out protection circuit in embedded system. [10]
OR
- 14 Explain about ASIC & COTS in detail. [10]
- 15 Explain the different on-board communication interfaces in brief. [10]
OR
- 16 Explain in detail the working of SPI & I2C with neat diagram. [10]
- 17 Explain the Process life cycle in detail with neat diagram. [10]
OR
- 18 Explain different types of non-preemptive scheduling algorithms. State merits and demerits of each. [10]
- 19 Explain the different task synchronization issues in inter process communication. [10]
OR
- 20 Explain the message passing technique for IPC. What are the merits and demerits of IPC. [10]