



Regulation R20

Subject code: 3E7DC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, April 2024

EMBEDDED SYSTEM DESIGN

(ECE)

Maximum Marks: 70

Date: 25.04.2024 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. Classify the embedded systems?
2. Give the applications of an embedded system.
3. What is an ASIC?
4. What is Sensor. List few examples
5. Explain Optocoupler
6. Draw the bus interface diagram of I2C
7. Explain the format of assembly language instruction
8. What is In Application programming
9. What is Embedded Product Development Life Cycle (EDLC)
10. What is upgrade phase in EDLC

Part-B

Answer All the following questions.

(10M X 5=50Marks)

11. Explain the different characteristics of embedded systems in detail. [10]
OR
12. What is an embedded system? Explain different application areas of embedded systems. [10]
13. What are the different types of memories used in embedded system design? Explain the role of each. [10]
OR
14. Write short notes on DSP, ASIC, PLD. [10]
15. Explain the different step modes for stepper motor, support with neat sketch. [10]
OR
16. Explain the RS232C serial interface in detail. [10]
17. Explain embedded firmware development languages in brief. [10]
OR
18. Explain the various techniques need in mixing Assembly and High-Level Language. [10]
19. Explain the different phases of Embedded Product Development Life Cycle. [10]
OR
20. Write a short note on EDLC approaches-Evolutionary Model and Spiral Model. [10]