



R20 Regulation *Subject code: 305EA*
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)
B.Tech V Semester Supplementary Examinations, July 2024

EMBEDDED SYSTEM DESIGN
(CSE)

Maximum Marks: 70

Date:01.08.2024 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)

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|----|---|
| 1 | Define an Embedded System. Give examples? |
| 2 | Classify the embedded systems? |
| 3 | What are the languages used in embedded system? |
| 4 | Compare RISC & CISC processors? |
| 5 | Define onboard communication. |
| 6 | Discuss the bottlenecks in embedded industry. |
| 7 | Discuss about kernel space and user space. |
| 8 | What is process life cycle? |
| 9 | Describe message passing. |
| 10 | Define task synchronization? |

Part-B

Answer All the following questions. (10MX 5=50Marks)

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| 11 | Explain the classification of embedded systems. Give an example for each. [10] |
| | OR |
| 12 | Explain quality attributes in the embedded system development context. [10] |
| 13 | Which are the components used as the core of an embedded systems? Explain the merits and drawbacks? [10] |
| | OR |
| 14 | Explain the role of RESET circuit and Real Time Clock in embedded system. [10] |
| 15 | Explain Language development trends in embedded systems. [10] |
| | OR |
| 16 | Explain the sequence of operation for communicating with an I2C bus device with neat diagram. [10] |
| 17 | Define Operating System and what are the important functions of OS. [10] |
| | OR |
| 18 | Explain different types of preemptive scheduling algorithms. State merits and demerits of each. [10] |
| 19 | Explain producer – consumer problem in the inter process communication context. [10] |
| | OR |
| 20 | What is semaphore? Explain the different types of semaphores. Where it is used? [10] |

