

III B. TECH II SEMESTER REGULAR EXAMINATIONS APRIL - 2023
EMBEDDED REAL TIME OPERATING SYSTEMS
(CSE – INTERNET OF THINGS)

Time: 3 hours

Max. Marks: 70

Note: Answer **ONE** question from each unit (**5 × 14 = 70 Marks**)

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UNIT-I

1. a) Conceptualize the quality attributes of embedded systems. [7M]  
 b) Determine the meaning and purpose of embedded systems. [7M]

(OR)

2. a) Classify the embedded systems based on various levels. [7M]  
 b) Interpret the characteristics of embedded systems. [7M]

UNIT-II

3. a) Paraphrase the different interrupt handling mechanisms. [7M]  
 b) Summarize the firmware design approaches. [7M]

(OR)

4. a) Detail various programming languages used in embedded firmware design. [7M]  
 b) Relate the challenges in embedded firmware management. [7M]

UNIT-III

5. a) Determine the types of files generated on cross compilation. [7M]  
 b) Detail the hardware software trade offs and detail the process of integrating hardware and software. [7M]

(OR)

6. a) Elaborate the Embedded system hardware and software development tools. [10M]  
 b) State the fundamental issues in hardware and software co design. [4M]

UNIT-IV

7. a) Analyze the process states of an Operating System. [7M]  
 b) Interpret the security issues in RTOS. [7M]

(OR)

8. a) Justify the design features of RTOS. [7M]  
 b) Provide the analysis of scheduling models in RTOS. [7M]

UNIT-V

9. a) Design any one example for RTOS programming. [7M]  
 b) Create a flow model for digital camera operations. [7M]

(OR)

10. a) Demonstrate the chocolate vending machine functions. [7M]  
 b) Frame the hardware and software design of adaptive controls for a car. [7M]

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