Code No.: EC722OE

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Supply) - April- 2024
INTRODUCTION TO EMBEDDED SYSTEMS
(Common for CSC, CSM, IT)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) What are the main components of an embedded system?   [2M]
   b) What are the differences between microprocessor and microcontroller?   [2M]
   c) List out the various building blocks of the hardware of an embedded system. [2M]
   d) What is meant by firmware?   [2M]
   e) What is meant by macros?   [2M]
   f) List out the various actions of linkers and locators.   [2M]
   g) Differentiate counting semaphore and binary semaphore.   [2M]
   h) What are the goals of RTOS?   [2M]
   i) What is IAP in application programming?   [2M]
   j) Give note on .MAP file.   [2M]

PART-B   (50 Marks)

2. Write the differences between embedded system and general computing system. [10M]

OR

3. Write the classifications of embedded systems and explain in detail.   [10M]

4. Which are the components used as the core of an embedded systems?   [10M]

OR

5. What is a sensor? Explain its role in embedded system design? Illustrate with an example. [10M]

6. Explain the high level language based on embedded firmware development technique. [10M]

OR

7. Explain about library file creation and usage in the assembly language based development? [10M]

8. Explain in detail about processes and threads.   [10M]

OR

9. Define semaphore and explain in detail about the types of semaphores.   [10M]

10. Give a detailed note on embedded system development environment.   [10M]

OR

11. Explain in detail about board bring up process.   [10M]

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