Code No.: EC601PC | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - June- 2024
EMBEDDED SYSTEM DESIGN
(ECE)

[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) Give few examples of embedded systems?   [2M]
   b) Write the differences between Embedded Systems and General computing systems?   [2M]
   c) What is the role of ASIC in Embedded System design?   [2M]
   d) Write a short note on COTS.   [2M]
   e) What is the role of Reset Circuit in embedded system?   [2M]
   f) List the types embedded firmware development approaches.   [2M]
   g) What is the use of RTOS in Embedded System Design?   [2M]
   h) Define Task Scheduling?   [2M]
   i) What is device driver?   [2M]
   j) Discuss the Task Synchronization issues   [2M]

PART-B   (50 Marks)

2. Discuss the Characteristics of Embedded systems in detail.   [10M]

OR

3. What is an embedded system? Explain the major application areas of embedded   [10M]
    systems.

4. What are the different types of memories used in embedded system design? Explain   [10M]
    each with examples.

OR

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

6. Explain the functions of watchdog timer and crystal oscillator in an embedded system. [10M]

OR

7. Briefly explain about Brown-out protection circuit.   [10M]

8. Explain the different multitasking models in the operating system context.   [10M]

OR

9. What is Process? With neat representation explain the process states and state   [10M]
    transition.

10. Explain about Remote Procedure Call and Sockets.   [10M]

OR

11. Explain the architecture of device driver, with neat sketch and give the applications of [10M]
    device drivers.

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