Code: 9A04701

B.Tech IV Year I Semester (R09) Regular & Supplementary Examinations December 2014

EMBEDDED REAL TIME OPERATING SYSTEMS
(Common to ECE, E.Con.E, EIE & CSS)

Time: 3 hours   Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1   (a)   Describe the purpose of embedded systems.
    (b)   Give a detailed note on the embedded firmware.

2   (a)   List the characteristics of an embedded system.
    (b)   Explain the hardware-software trade off. What are the advantages and disadvantages of software implementation instead of hardware implementation?

3   Write notes on the following:
    (a)   Electronic design automation tools.
    (b)   Embedded firmware development Languages.

4   (a)   What is an operating system? Describe the types of operating systems.
    (b)   Discuss various ways of achieving task synchronization.

5   (a)   Mention various I/O device types and give examples for each.
 b)   (Discuss the network protocols used for internet enabled embedded system communication.

6   (a)   With a neat diagram explain the states in finite state machine of a task in a multi-tasking program and in a program model of an ACVM.
    (b)   What do you mean by load balancing? How do you achieve it by combined portioning?

7   (a)   Discuss the function of a device manager.
    (b)   Explain preemptive scheduling model with an example.

8   (a)   With a neat diagram explain smart card hardware.
    (b)   List the tasks and ISRS required for mobile phone SMS create and send application. Explain the actions of each. Explain task priority assignments in an SMS create and send application of a mobile phone.

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