Code: 9A04701

R09

B.Tech IV Year I Semester (R09) Regular & Supplementary Examinations December 2015
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 domains where embedded systems are used with suitable examples.
   (b) List and explain the criteria for classification of embedded systems.

2 (a) Explain non-operational quality attributes need to be addressed for developing embedded system.
   (b) Draw and explain computational models used in embedded system design.

3 (a) Explain digital design flow used in EDA tools.
   (b) What are the embedded firmware design approaches?

4 (a) What are static and dynamic scheduling policies used in embedded system?
   (b) What is a thread? What are the different ways in which a thread can be cancelled?

5 (a) Explain serial communication using CAN and USB.
   (b) What is watch dog timer? How it can be used in mobile phones?

6 (a) Describe partitioning and scheduling of processes on multiple processors.
   (b) Explain model of computations available in UML.

7 (a) Describe the techniques for scheduling tasks on processors to ensure that deadlines are met.
   (b) Explain security functions and protection mechanisms provided by RTOS.

8 (a) Describe the working of embedded controller based smart card access system.
   (b) Design a mobile phone software model for key inputs for creating SMS.

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