Code: R05 411104

SET 2

IV B.Tech I Semester, Supplementary Examinations March 2009

EMBEDDED AND REAL TIME SYSTEMS

(Common to BME and ICE)

Time : 3 hours **Max. Marks: 80**

Answer any five questions

All questions carries equal marks

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1. a) With the aid of suitable diagram explain the various components of an embedded system.
   b) Explain how to optimize the custom single purpose processors. And explain.

2. a) Draw and explain the basic architecture of general purpose processor employed in an embedded system.
   b) What are the various digital signal processors available? Explain about any one of them.

3. a) Explain program state machine model with suitable example.
   b) Explain the implementation procedure for concurrent process models.

4. a) What are the various communication interface devices? Explain the need for them.
   b) Write notes on blue tooth technology.

5. a) Draw and explain the architecture of the kernel.
   b) Explain interrupt service routines related to embedded RTOS.

6. a) Explain the need of mail boxes in RTOS based embedded system.
   b) Write notes on pipes in connection with embedded RTOS.

7. a) Explain the priority inversion problem occurred in embedded RTOs.

   b) Write notes on RT LINUX RTOs.

8. a) Explain the parallel evolution of compilation and synthesis with respect to embedded system design technology.

   b) Define the following terms in connection with embedded system design.

   i) Logic synthesis

   ii) RT synthesis

   iii) Behavioral synthesis

   iv) Systems synthesis