Code No: NR411902 **NR**

IV B.Tech I Semester Supplementary Examinations, April/May 2005
REAL TIME SYSTEMS
(Electronics & Computer Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) List out the advantages of using several small computers instead of one large computer in control applications.
   (b) Are there any disadvantages that arise from using several computers?
2. Explain in detail the following processors :
   (a) Parallel Computers
   (b) Digital Signal Processors
   (c) Transputers
   (d) Microcontrollers.
3. Explain in detail, the following concepts
   (a) Blocks
   (b) Procedures and Functions
   (c) Packages
4. (a) Construct a set of periodic tasks (with release times, execution times and periods), which can be scheduled by the EDF algorithm but not by the RM algorithm to meet the dead lines.
   (b) Describe the situations in which a task should not be pre empted.
5. Explain on RTS development using
   (a) Hatley and Phribhai
   (b) Ward and Mellor method
   (c) MASCOT
   (d) PAISLEY
6. (a) What is a petri net? What are the different types of petri nets used in modeling of systems?
   (b) What do you mean by enabling and firing of a transition in petri nets? Explain it with an example and its firing table?
7. (a) Discuss voting and consensus. Describe comparison of voter types.
   (b) Describe N-Modular redundancy.

8. (a) What is redundancy and explain how it can be used to make the system fault -tolerant ?
   (b) Explain the terms, Triple-modular redundancy, Median selection and Mean value methods.

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