

FACULTY OF INFORMATICS

B.E. 3/4 (IT) II Semester (Suppl.) Examination, December 2012

Subject: Real Time Systems

Time: 3 Hours

Max.Marks: 75

Note : Answer all questions from Part A. Answer any Five questions from Part B.

PART – A (25 Marks)

1. State Nyquist sampling theorem. (2)
2. Define fixed, jittered and sporadic release times. (3)
3. Mention different types of interrupts with their priorities. (3)
4. List the major states of threads. (3)
5. Write about the main components of a structured design approach in RTS. (2)
6. When will an event precede another event? (2)
7. State the properties that a transaction must satisfy in conventional Databases. (3)
8. Comment on the advantages of having entire database is main memory. (2)
9. What are the different forms of error recovery? (2)
10. List the actions that indicate a faulty processor. (3)

PART – B (50 Marks)

11. Discuss the real time issues in multimedia.
12. Write in detail about the real time system life cycle and its requirements.
13. Briefly explain how predictability can be improved through two-phase approach.
14. Write about N-Modular Redundancy.
15. Explain about the hardware and software support required for providing good time services to real time applications.
16. Prove “No on-line scheduling algorithm can achieve a competitive factor greater than 0.25 when the system is over loaded.
17. Write about
 - (a) Features of ADA programming language that supports real time environment
 - (b) Serialization consistency.
