22/10/13

Roll No. | | | | | | | | | | 24 |

B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

COMPUTER SCIENCE BRANCH

Sixth Semester

CS508 / CS9077 – REAL TIME SYSTEMS

(Regulation 2004/2008.)

Time: 3 Hours **Answer ALL Questions** **Max. Marks 100**

PART-A (10 x 2 = 20 Marks)

1. Give any two non – real time tasks in a real – time system?
2. Explain why the shortest possible time scheduling is not ideal for real – time systems?
3. What is the difference between a performance constraint and a behavioral constraint in a real-time system?
4. What is a "fail-safe" state? Illustrate.
5. What are the different types of timing constraints that can occur in a real-time system?
6. How does the dynamically changing property affect real-time systems?
7. Explain the requirements of a real-time file system? How is it compared to traditional file systems?
8. What is meant by QoS routing?
9. List the two most important differences between a real-time database and a conventional database?
10. Why is "Exception Handling" necessary in programming real – time systems ? Illustrate with an example.

Part – B (5 x 16 = 80 marks)

11. What is the difference between static priority and dynamic priority algorithms? Give two examples for each.

12. a) How is a network topology important for real time communication? Justify.

OR

b) What are the performance measures for real time systems? Discuss the properties that the different performance measures should have.

13. a) Discuss fault tolerant scheduling. What are its different advantages over other scheduling algorithms?

OR

b) How is the execution of concurrent transactions controlled in real time database systems? Discuss with the help of suitable examples.