Student Regn.

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Course Code: DCAP608 Course Name: REAL TIME SYSTEMS

Date of Exam:- 1 Sept Session:- 9:30-12:30

Time Allowed: 3 hours Max. Marks: 80

1. This paper contains 10 questions divided in two parts on 1 page.

2. Part A is compulsory.

3. In Part B (Questions 2 to 10), attempt any 6 questions out of 9. Attempt all parts of the questions chosen.

4. The marks assigned to each question are shown at the end of each question in square brackets.

5. Answer all questions in serial order.

PART A (All question are compulsory. Each have 2 marks)

Q1:

1) List out various real time applications?

2) What is real time system? Explain its various components with a suitable block diagram?

3) Deadline constraints?

4) What do you understand by temporal parameters?

5) What do you understand by data dependency? Explain with example.

6) Differentiate between static and dynamic systems with example.

7) List out various advantages of clock driven scheduling.

8) Differentiate between relative deadline and absolute deadline.

9) Difference between the embedded system and real time system?

10) Timing constraints? [2*10=10]

Part-B

Q2. With the help of example explain fixed priority and dynamic priority algorithms. [10]

Q3. Difference between the hard real time system and soft real time system? Give example. [10]

Q4. Discuss with example clock driven scheduling and weight round robin approach. [10]

Q5. What are the various Sufficient Schedulability conditions for the RM and DM Algorithm? [10]

Q6. With the help of example elucidate the Schedulability Test for Fixed-Priority Tasks with Short Response Time. [10]

Q7. Discuss the various Assumption and Approaches Scheduling Aperiodic and Sporadic Jobs in Priority-Driven System. [10]

Q8. Elucidate the various notations and assumptions for clock driven scheduling along with the general structure of cyclic scheduler. [10]

Q9. Elucidate the concept of scheduling? With the help of example elucidate on-line scheduling and off-line scheduling? [10]

Q10. Discuss the various challenges in validating timing constraints in priority-driven systems? [10]