Student Registration Number

B

COURSE CODE: DCAP608
COURSE TITLE: REAL TIME SYSTEMS

Date: 10-Sep-2013 **Time: 01:30-04:30**
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 selected question.
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*.
6. The student is required to attempt the question paper in English medium only.

PART A

Q1a). What do you understand by real time applications? [2]

b). Explain any 2 issues of real time applications. [2]

c). Explain deadbeat control. [2]

d). What do you understand by real-time databases? [2]

e). Explain jobs and processors. [2]

f). What do you understand by sporadic jobs? [2]

g). Explain data dependency. [2]

h). What do you understand by temporal and functional parameters? [2]

i). What do you understand by latest Release Time (LRT) algorithm? [2]

j). What do you understand by the term response time? [2]

PART B

Q2. Explain the architecture of Air Traffic Control System. [10]

Q3. Illustrate the difference between hard and soft timing constraints. [10]

Q4. Explain the Effective Response Times (ERT) algorithm in detail. [10]

Q5.With the help of an example, explain precedence graph and task graph. [10]

Q6. Explain priority-driven approach of real time scheduling in detail. [10]

Q7. Explain the effective release time and deadlines in detail. [10]

Q8. Explain the nonoptimality of the EDF algorithm. [10]

Q9. Discuss the ways for improving the average response time of Aperiodic jobs.[10]

Q10. Explain schedulability test for fixed-priority tasks with arbitrary response times.

[10]