Student Regd No.

E

Course Code: DCAP608

Course Title: REAL TIME SYSTEMS

Date: 10-Sep-2013 **Time: 09:30-12:30**

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 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

Q1.

a) When a system is said to be a Real-Time? [2]

b) Define the Sampling period for a Digital control system. [2]

c) What are the various Real-Time applications? [2]

d) Describe the 4-tuple notation of a periodic task in Clock-driven scheduling? [2]

e) What are the different Scheduling algorithms in RTOS? [2]

f) Differentiate between Hard and Soft Real Times. [2]

g) Define Aperiodic and Sporadic Task. [2]

h) When a job is said to be Pre-emptive? [2]

i) Differentiate between Effective Release Time and Deadline. [2]

j) Compare Pros and Cons of Clock-Driven Scheduling. [2]

Part-B

Q2. Describe Signal processing applications in general and radar signal processing and tracking. [10]

Q3. Explain the Temporal Parameters of Real time model. [10]

Q4. Describe briefly about the Functional Parameters. [10]

Q5. Explain about Priority Driven approach. [10]

Q6. Describe Optimality of the EDF algorithm. [10]

Q7. Explain the general structure of Cyclic scheduler. [10]

Q8. How to improve the average response time of Aperiodic jobs? [10]

Q9. Describe about the Optimality of the RM and DM Algorithms [10]

Q10. Explain about the Sufficient Schedulability conditions for the RM and DM Algorithm . [10]