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Code No: CS1521

GEC-R14

IV B. Tech I Semester Supplementary Examinations, February 2018

**REAL-TIME SYSTEMS**

(Open Elective-III)

Time: 3 Hours

Max. Marks: 60

**Note:** All Questions from **PART-A** are to be answered at one place.

Answer Any **FOUR** Questions from **PART-B**. All Questions Carry Equal Marks.

**PART-A**

**6 × 2 = 12M**

1. List out functional parameters for reference model of real-time systems.
2. Differentiate between static and time driven scheduler.
3. Explain critical instant.
4. What is priority inversion?
5. Explain the criteria of optimality.
6. What is a delay jitter?

**PART-B**

**4 × 12 = 48M**

1. a) Briefly discuss about Precedence graph and Task graph with suitable examples. (8M)  
b) Explain about data dependency. (4M)
2. a) Write a short note on anomalous behavior of priority driven systems. (6M)  
b) Compare and contrast between dynamic and static systems. (6M)
3. a) Explain the schedulable utilizations of the EDF algorithm. (6M)  
b) Perform time demand analysis of a schedulability test for fixed priority tasks with short response times. (6M)
4. a) How do you avoid deadlock using Priority Ceiling Protocol? (6M)  
b) Explain Priority Inheritance Protocol. (6M)
5. a) Explain about stack stealing approaches. (6M)  
b) Discuss about Temporal distance model. (6M)
6. a) With a neat sketch explain the Structure of Microkernel. (6M)  
b) Mention the objectives of Open system architecture. (6M)

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