H.T.No. | | | | | | | | | | |

Code No: CS1521 **GEC-R14**

IV B. Tech I Semester Regular Examinations, November 2017

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

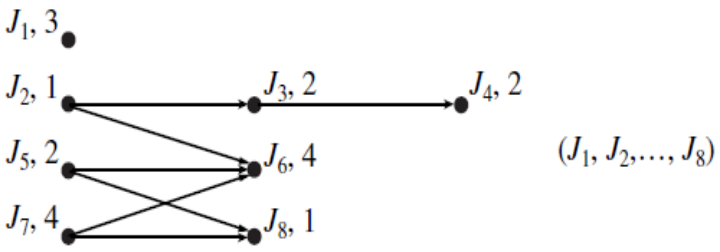
6 × 2 = 12M

1. a) Define Real-Time System.
   b) List out different applications of Real-time systems.
2. What is scheduling? List different approaches of hard Real-Time scheduling.
3. a) Define fixed priority and dynamic priority algorithms.
   b) Define Slack time.
4. a) What is Resource Access Control?
   b) List out rules in Priority-Ceiling protocol.
5. List out different implementation methods of Flexible application.
6. a) Draw the structure of a microkernel.
   b) What is the need of Thread Control Block?

PART-B

4 × 12 = 48M

1. a) Explain the reference model of Real-Time System. (6M)
   b) With a neat sketch explain about radar signal processing. (6M)
2. Explain about priority driven approach? Draw and explain scheduling diagram for the given graph both preemption and non preemption with two processors P1, P2? (J5 is released at time 4, All the other jobs are released at time 0) (12M)



3. a) Describe the role of Sporadic servers in Fixed-priority systems with an example. (6M)
   b) Explain simple acceptance test in Deadline-driven systems. (6M)

4. a) Explain in detail about Priority-Inheritance protocol. (8M)

   b) With a neat sketch explain about Inter Process Communication architecture. (4M)

5. Explain in detail about scheduling flexible computation and tasks with temporal distance constraints. (12M)

6. a) Explain Medium Access Control in DQDB networks. (6M)

   b) Describe about two-level scheduler works in open system architecture. (6M)

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