Reg. No. : ........................................
Name : ...........................................

Seventh Semester B.Tech. Degree Examination, October 2014
(2008 Scheme)
08.705 – Elective – III : REAL TIME OPERATING SYSTEMS (TA)

Time : 3 Hours
Max. Marks : 100

Instruction : Answer all questions in Part A. Answer any two questions from each Module in Part B.

PART – A

1. Define a process. Draw the process components and explain.
2. What is critical section problem? How it can be avoided?
3. How a process is created? Give reasons for creating a process.
4. Describe interrupt latency.
5. Differentiate between process and thread.
6. Write notes on different task classes.
7. Explain mutex in RTOS. Briefly describe its features.
9. Compare the different intertask communication mechanisms.
10. Explain task priorities in μc/OS – II. (4×10=40 Marks)

PART – B

Module – I

11. a) Explain the memory management operation of operating systems.
    
    b) Compare dynamic linking and loading.
12. Give a detailed description of the different task classes.

13. A number of processes are there with the following priorities and burst times. Schedule the processes with Round Robin and Priority algorithms.

<table>
<thead>
<tr>
<th>Process</th>
<th>Burst time</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>P_2</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>P_3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>P_4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>P_5</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

(2x10=20 Marks)

Module – II


15. Explain Rate Monotonic scheduling with examples.

16. Explain the interrupt routines in RTOS. (2x10=20 Marks)

Module – III

17. Discuss about the data structures in Real Time Kernal.

18. Draw the detailed process state transition diagram of the Real Time Kernal.

19. How are tasks handled and scheduled in micro C/OS – II. (2x10=20 Marks)