Seventh Semester B.Tech. Degree Examination, March 2017
(2008 Scheme)
08.705 : REAL TIME OPERATING SYSTEMS (TA)

Time : 3 Hours
Max. Marks : 100

PART – A

Answer all questions. Each question carries 4 marks. (10x4=40 Marks)

1. Write briefly on signals in RTOS.

2. What are interrupts? Mention the interrupt handling methods adopted in RTOS design.

3. List out and explain the performance measures applied for RTOS.

4. Compare task, thread and process.

5. What is a pipe? Show the need and use of pipe service under RTOS.

6. Briefly mention on deadline monitoring.

7. Elaborate the issues in real time kernel design.

8. Draw the process transition diagram and explain.

9. How is system overhead measured and controlled under real time kernel?

10. Mention the advantages of task encapsulation.

P.T.O.
PART – B

Answer any two questions from each Module. Each question carries 10 marks.

Module – I  \[2 \times 10 = 20 \text{ Marks}\]

11. Discuss the memory management policies used in real time operating system.

12. What is shared data problem? Explain the techniques deployed to overcome shared data problem.

13. Describe in detail on the various interrupt sources and disabling interrupts in RTOS.

Module – II  \[2 \times 10 = 20 \text{ Marks}\]

14. What is semaphore? Explain the design aspects of semaphore in RTOS.

15. Define ISR. Discuss any three ISRs defined under RTOS.

16. With suitable algorithm explain Aperiodic task scheduling.

Module – III  \[2 \times 10 = 20 \text{ Marks}\]

17. Explain the structure and functions of real time kernel.

18. State the need and design aspects of inter-task communication mechanism.

19. Describe the complete design details of QNX Nutrino2 RTOS.