

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 735202**Date: 30-12-2012****Subject Name: RTOS, Kernels and Device Drivers****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Give examples of RTOS available in the market and explain how the RTOS functions. **07**
(b) What are the different functions of an Operating System? **07**
- Q.2** (a) Define the terms- schedulers, tasks, threads and processes **07**
(b) What are the differences between binary semaphore and mutex? **07**
OR
(b) Describe three types of scheduling algorithms for RTOS? **07**
- Q.3** (a) Explain the structure of interrupt handling mechanism. **07**
(b) Give examples of interrupts occurring in real-life situations. **07**
OR
- Q.3** (a) Explain the flow of events that occur during an interrupt service routine. **07**
(b) What is sporadic scheduling algorithm? Explain. **07**
- Q.4** (a) Write short notes on paging and Translation Look aside Buffer. **07**
(b) Explain the concepts of Physical Memory and Virtual Memory. **07**
OR
- Q.4** (a) What is a Boot Loader? Describe the functions of Boot Loader. **07**
(b) What is a Device driver and explain how Device Drivers are implemented in Linux. **07**
- Q.5** (a) Explain the software architecture of power management in a real time operating system with a neat block diagram **07**
(b) What are the features of Windows Mobile OS? **07**
OR
- Q.5** (a) Explain the Hardware Abstraction Layer with suitable diagram. Explain with Examples **07**
(b) Explain how the modules are added into the kernel **07**
