Seat No.:	Enrolment No.

## 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. (a) Give examples of RTOS available in the market and explain how the RTOS 07 0.1 functions. **(b)** What are the different functions of an Operating System? **07** 0.2 (a) Define the terms- schedulers, tasks, threads and processes 07 **(b)** What are the differences between binary semaphore and mutex? 07 **(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** Write short notes on paging and Translation Look aside Buffer. 07 **(b)** Explain the concepts of Physical Memory and Virtual Memory. **07** ORWhat is a Boot Loader? Describe the functions of Boot Loader. 0.4 07 (b) What is a Device driver and explain how Device Drivers are implemented 07 in Linux. (a) Explain the software architecture of power management in a real time 07 Q.5 operating system with a neat block diagram **(b)** What are the features of Windows Mobile OS? 07 OR (a) Explain the Hardware Abstraction Layer with suitable diagram. Explain 07 Q.5 with Examples **07 (b)** Explain how the modules are added into the kernel

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