Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION - WINTER 2015

	•	Code: 170705 Date: 04/12/2015	
Tir	ne: 1 tructio 1. 2.	Attempt all questions. Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a) (b)	What is embedded system? Explain its Characteristics and application? Explain various design process steps in any embedded system.	07 07
Q.2	(a)(b)	Explain interfacing of analog to digital convertor with 8051 microcontroller. Discuss steps for programming. What is scheduling? Discuss different types of scheduling algorithms in brief? OR	07 07
	(b)	What is real time operating system? Discus difference between real time operating system and general purpose operating system.	07
Q.3	(a) (b)	Compare preemptive and round robin scheduling strategies? What is semaphore? What are the different types of semaphore used for interprocess communication? Explain any one with example? OR	07 07
Q.3	(a) (b)	Explain interfacing of matrix keyboard with embedded processor. Also write programming steps. Explain role of assemblers, compilers, and linkers in IDE? What is preprocessor?	07 07
Q.4	(a)	What is a Watchdog timer and why it is used? Which are the steps to connect with microcontroller?	07
	(b)	What is Gadfly bus waiting and blind count synchronization? OR	07
Q.4	(a)	How does memory allocation differ in RTOS and OS? What is memory locking?	07
	(b)	What is SoC? "SoC is a design innovation". Justify the statement?	07
Q.5	(a) (b)	What is RISC? Compare RISC and CISC processor? Write a short note on RTLinux? OR	07 07
Q.5	(a) (b)	Discuss the case study on digital camera as an embedded system? What is network router and what its application in embedded system?	07 07
