Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION - SUMMER 2016

Subject Code:171005 Date:05/05/2 Subject Name:Embedded Systems (Department Elective - I) Time:02:30 PM to 05:00 PM Total Marks Instructions:		.6	
		s: 70	
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain Real time embedded system. Explain with Examples. Describe the flow of ARM development tools for embedded system design.	07 07
Q.2	(a) (b)	Explain 3-stage pipeline ARM organization. Draw and discuss the block diagram of architectural model of ARM Processor. OR	07 07
	(b)	Discuss the ARM programmer's model in detail.	07
Q.3	(a) (b)	List wireless and mobile system protocols and discuss any two in detail. Explain the following ARM instruction by giving examples. (a) ASR (b) SMULL (c) SWI (d) ADDEQ OR	07 07
Q.3	(a) (b)	Give the properties of thumb instructions in ARM processor. Explain the Real Time Clock and Watch Dog Timer related to embedded systems. Cite an example.	07 07
Q.4	(a) (b)	Explain data processing instruction execution in ARM processor. Give detail of Kernel function in RTOS. Cite an example. OR	07 07
Q.4	(a) (b)	How branch instructions are executed in ARM? What are the RTOS security issues, Which are the important security function generally found on RTOS?	07 07
Q.5	(a) (b)	What do you mean by preemptive and non-preemptive task? Cite an example. What is Semaphore? Explain with help of example "How semaphore can be work as resource key?"	07 07
Q.5	(a) (b)	OR Give the RTOS strategies on interrupt service calls. Explain any one in details. What do you mean by Process and Process state related to embedded system? Discuss about Process Control Block (PCB) and its data.	07 07
