Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2180808 **Date: 04/05/2017**

Subject Name: Embedded Systems(Departmental Elective - III)

Time: 10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	What is Embedded System? Explain its overview with neat block diagram in detail.	**07**
	(b)	Briefly discuss the SOC of Embedded System and the use of VLSI circuit design technology in it.	**07**
Q.2	**(a)**	Explain the serial communication devices in Embedded System in detail.	**07**
	(b)	What is Watch Dog Timer? Explain it in detail with suitable example.	**07**
		OR	
	(b)	Explain in detail the design process in Embedded System.	**07**
Q.3	**(a)**	What is Real Time Clock? Explain it in detail with suitable Example.	**07**
	(b)	Explain the parallel bus devices protocols that are used in Embedded Systems in detail.	**07**
		OR	
Q.3	**(a)**	Explain the Interrupt servicing (handling) mechanism in Embedded System.	**07**
	(b)	What is DMAC? Explain DMAC in Embedded System.	**07**
Q.4	**(a)**	Explain various Interrupt Sources of Embedded System.	**07**
	(b)	Explain SEMAPHORES & their functions in Embedded System.	**07**
		OR	
Q.4	**(a)**	Explain Tasks & Task States in an Embedded System.	**07**
	(b)	Explain Process Management in RTOs.	**07**
Q.5	**(a)**	Explain Real Time Operating System in detail with neat sketch.	**07**
	(b)	Explain Memory Management in RTOs.	**07**
		OR	
Q.5	**(a)**	Explain various Embedded hardware units and devices used in an Embedded System in detail.	**07**
	(b)	Explain RTO task handling; interrupt latency & response time of task as performance metrics.	**07**

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