Seat No.:	Enrolment No.
Seat 11011	Bin of ment 1 to:

Subject Code: 170705

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Date: 29-11-2014

**Subject Name: Embedded Technology** Time: 10:30 am - 01:00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. Explain how the embedded system is implemented using various software **07** 0.1 (a) development tools? Write short note on any one of the applications of embedded system. 07 **(b) Q.2** What is difference between RISC and CISC processors? Explain architecture of **07** (a) RISC processor. **(b)** Explain various design process steps in any embedded system. 07 Discuss challenges and issues related to Embedded Software Development. 07 **(b)** 0.3 What is UML? Explain various features of UML which are helpful in embedded **07** (a) system design. What is the difference between DFG and CDFG model? Discuss their role in an 07 **(b)** embedded system design. OR Q.3 (a) What is Process synchronization? Explain how it is correlated with critical 07 section. What are the requirements of mutual exclusion? **07 (b)** What is semaphore? What are different types of semaphore used for inter-**Q.4 07** (a) process communication? **(b)** What is scheduling? Discuss various types of scheduling algorithm in brief. 07 What is Gadfly bus waiting and blind count synchronization? 07 **Q.4** (a) Explain the concept of Process, thread and task in detail. 07 **(b) Q.5** (a) What is Real-time operating system? How it is different from general purpose **07** OS? What is Host and Target system? Discuss steps in transferring embedded system **07 (b)** software into target system. OR What are different inter-process communication mechanisms? Explain any two Q.5 (a) **07** of them in detail. Write detailed case study about digital camera as an embedded system. 07 **(b)** 

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