

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 170805**Date: 29-11-2014****Subject Name: Embedded Systems and Applications****Time: 10:30 am - 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)** State any four features and applications of Embedded system. **07**
(b) Explain Synchronous and Asynchronous communication. **07**
- Q.2 (a)** Explain the classification of an embedded system. **07**
(b) Explain PCI and PCI-x bus in details. **07**
- OR**
- (b)** Discuss power issues in embedded systems. **07**
- Q.3 (a)** Explain in brief: UART and HDLC. **07**
(b) Explain the Object-Oriented Programming in an embedded system. **07**
- OR**
- Q.3 (a)** Explain Function Queues and Interrupt Service Routines Queues in pointers. **07**
(b) Discuss hardware and Software synthesis in brief. **07**
- Q.4 (a)** Explain the Timer and Counting devices. **07**
(b) Write various techniques for optimization of memory code for embedded C. **07**
- OR**
- Q.4 (a)** Explain SoC (System on Chip) in an embedded system. **07**
(b) Discuss Assembly Language Programming (ALP) Vs High Level Language Programming. **07**
- Q.5 (a)** Write the use of VLSI designed circuits in embedded systems. **07**
(b) Explain the real time Constraints, in RTOS. **07**
- OR**
- Q.5 (a)** Describe the need of RTOS in an Embedded System and state any two specifications of RTOS. **07**
(b) State any four features of I2C and CAN Bus Protocol. **07**
