Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014**

**Subject code: 1720306** **Date: 20-06-2014**

**Subject Name: Embedded System Design**

**Time: 02:30 pm - 05:00 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** | | Explain different software blocks of digital camera example in detail. | **14** |
| **Q.2** | **(a)** | Explain the advantages of Huffman encoding with example. | **07** |
| | **(b)** | Define semaphores with example. | **07** |
| | | **OR** | |
| | **(b)** | Explain how inter process communication works. | **07** |
| **Q.3** | **(a)** | Explain the terms hard, soft and firm deadlines for embedded systems with example. | **07** |
| | **(b)** | Explain injection molding machine example in detail. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain reader-writerôs problem in detail. | **07** |
| | **(b)** | Explain various constraints and its importance with respect to aircraft simulator. | **07** |
| **Q.4** | | Explain various operating system scheduling algorithms in detail. | **14** |
| | | **OR** | |
| **Q.4** | | Explain sleeping barber problem in context to semaphore in detail. | **14** |
| **Q.5** | | Explain the fuel controller example using state chart. | **14** |
| | | **OR** | |
| **Q.5** | | Explain with all conditions the example of a lift using state chart. | **14** |

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