

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME - SEMESTER- II • EXAMINATION – SUMMER - 2017**

**Subject Code:2722906**

**Date:29/05/2017**

**Subject Name: Embedded Systems**

**Time:02:30 PM to 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.
4. Notations used have usual meaning.

- Q.1** (a) Write detailed note on Embedded Micro controller Cores. **07**  
(b) What is DRAM? Explain DRAM Controllers with appropriate diagram. **07**
- Q.2** (a) Discuss about the Custom single-purpose processor in embedded system along with merits and demerits. **07**  
(b) What is the basic difference between UART and USART? Explain in detail USART. **07**
- OR**
- (b) Explain the architecture of 8051 microcontroller with neat diagram. **07**
- Q.3** (a) Explain the concept of RISC. Also discuss about the pipelining for execution of instructions. **07**  
(b) Discuss about inter task communication in real time systems. **07**
- OR**
- Q.3** (a) What is deadlock? Discuss about the prevention of deadlock condition. **07**  
(b) Explain dynamic memory allocation in real time systems. **07**
- Q.4** (a) Explain round robin scheduling in real time system. **07**  
(b) Discuss about the Embedded System Design Aspects in brief. **07**
- OR**
- Q.4** (a) Write a detailed note on architecture of PIC (16F72) Processor. **07**  
(b) Explain the application of micro controller for Temperature control of the furnace. **07**
- Q.5** (a) Discuss serial peripheral interphase (SPI) with reference to embedded systems. **07**  
(b) Explain JTAG port with necessary diagram. **07**
- OR**
- Q.5** (a) Enlist and explain different types of 8051 addressing modes with suitable example. **07**  
(b) Write a short note on Interrupt driven systems. **07**

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