

[Time: 3 Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:**
1. **Question No. 1 is compulsory.**
 2. **Attempt any four from remaining.**
 3. All questions carry equal marks.

- Q1.** a. Give architectural details and addressing modes of any one of the following microcontrollers : 8051/ 80188/ 6811 **10**
b. Explain UART in detail? **05**
c. What are the types of memories used in an embedded system? Explain about flash memory. **05**
- Q2.** a. Write a simple diagnostic program to blink red LED when an error occurs in an 80188 based development board. **10**
b. What is real time operating system? Explain about ADEOS in detail? **10**
- Q3.** a. Describe architecture of WIN CE in detail with its suitability in embedded systems. **10**
b. Explain difference between hard real time and soft real time operating system with applications. **10**
- Q4.** a. Describe applications and categories of embedded systems. **10**
b. Outline the steps to be followed while debugging embedded system for hardware and software problems. **10**
- Q5.** a. What are the constraints should be considered for embedded system design? How it differs from other computer systems. **10**
b. Write a program or pseudo-code for timer driver? How multiple software timers are possible? **10**
- Q6.** a. What is a priority inversion? How it can be prevented? What is a watchdog timer? **10**
b. What is an Interrupt Latency? Give examples of hardware and software interrupt? Describe steps involved in servicing an interrupt. **10**
- Q7.** Write short notes on **any four**:- **20**
- a. USB
 - b. JTAG
 - c. Symbian OS
 - d. Cross compiler
 - e. Scheduling points
-