

Exam.Code:0926
Sub. Code: 6877

1058

B.E. (Information Technology)
Eighth Semester

ITE-842: Embedded System Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Explain the following:-
- Interrupt latency in microprocessors
 - Harvard architecture
 - CISC Processor
 - Serial port in 8051 Microcontroller.
 - Name any two arithmetic instructions
 - Meaning of orthogonal instruction set
 - Prescaling of PIC timers
 - Write two uses of multiple semaphores between the tasks DC.
 - Real time Scheduling
 - Semaphores (10x1)

UNIT - I

- II. Explain the block diagram of 8051 microcontroller and addressing modes. (10)
- III. Explain the difference between Harvard architecture and Von Neumann architecture. Also explain the external memory devices. (10)
- IV. Explain the architecture of Atmel 89C51 microcontroller and its applications. (10)

UNIT - II

- V. a) Explain the meaning of orthogonal instruction set. Is PIC instruction set orthogonal?
- b) What do you mean by the prescaling of PIC timers? What is the advantage of doing so? Is it possible to apply the prescaling to watchdog timer? If so, justify your answer. (4,6)

P.T.O.

(2)

- VI. Explain round robin with the concept of interrupts. Explain function scheduling architecture. (10)
- VII. Explain in detail the concept of messages, queues, tasks in real time operating system. (10)

x-x-x