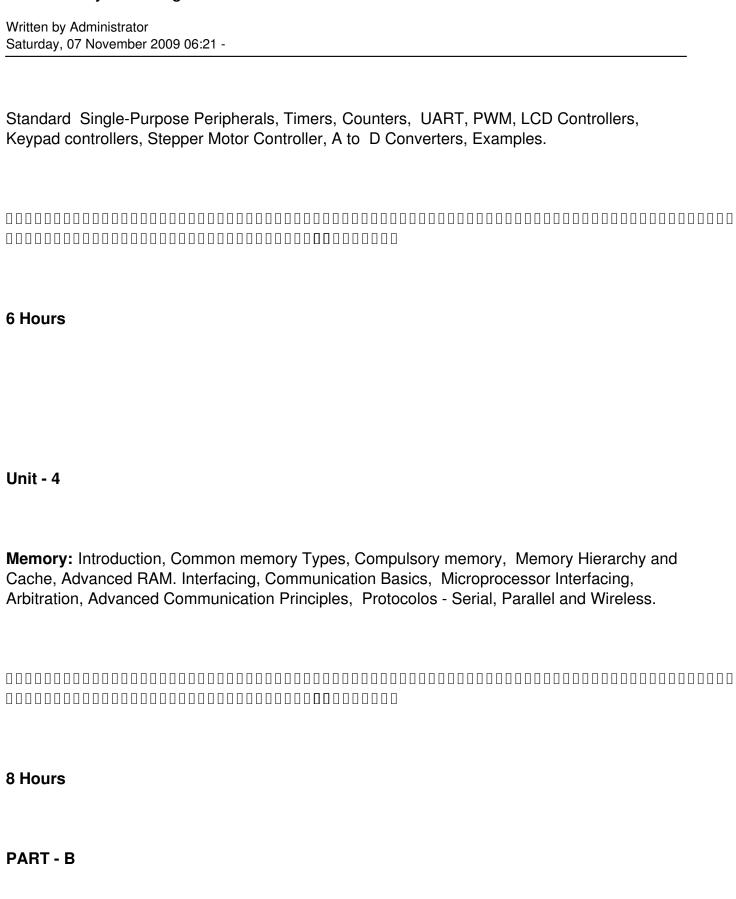
Written by Administrator Saturday, 07 November 2009	9 06:21 -			
Subject Code				:
IA Marks		: 25	٦	
II C Marks		. 20	_	
No. of Lecture Hrs/We	ek			: 04
Exam Hours		: 03	7	
			_	
Total no. of Lecture Hr	ro			. 50
Total 110. Of Lecture Hr	5.			: 52
Exam Marks		: 100		

Embedded System Design
Written by Administrator Saturday, 07 November 2009 06:21 -
PART - A
Unit - 1
Introduction: Overview of embedded systems, embedded system design challenges, common design metrics and optimizing them. Survey of different embedded system design technologies, trade-offs.  Custom Single-Purpose Processors, Design of custom single purpose processors.
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4 Hours
Unit - 2
<b>Single-Purpose Processors:</b> Hardware, Combinational Logic, Sequential Logic, RT level Combinational and Sequential Components, Optimizing single-purpose processors. Single-Purpose Processors: Software, Basic Architecture, Operation, Programmer's View, Development Environment, ASIPS.

# Unit - 3

6 Hours

Unit - 5



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**Interrupts:** Basics - Shared Data Problem - Interrupt latency. Survey of Software Architecture, Round Robin, Round Robin with Interrupts - Function Queues - scheduling - RTOS architecture.

#### 8 Hours

#### Unit - 6

**Introduction to RTOS:** Tasks - states - Data - Semaphores and shared data. More operating systems services - Massage Queues - Mail Boxes - Timers - Events - Memory Management.

#### 8 Hours

#### **Unit - 7&8**

Basic Design Using RTOS, Principles- An example, Encapsulating semaphores and Queues.

Hard real-time scheduling considerations – Saving Memory space and power. Hardware

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software co-design aspects in embedded systems.
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12 Hours
Text Books:
Embedded System Design: A Unified Hardware/Software Introduction - Frank Vahid, Tony Givargis, John Wiley & Sons, Inc.2002
2. An Embedded software Primer - David E. Simon: Pearson Education, 1999
Reference Books:
1. <b>Embedded Systems: Architecture and Programming,</b> Raj Kamal, TMH. 2008
2. Embedded Systems Architecture – A Comprehensive Guide for Engineers and Programmers , Tammy Noergaard, Elsevier Publication, 2005
3. <b>Embedded C programming</b> , Barnett, Cox & O'cull, Thomson (2005).

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