MANGALORE UNIVERSITY
Department of Electronics
MSc Electronics

ELS 508 - ARM processor

Course Outcome:

1. To develop background knowledge and core expertise   microprocessor and to know the design aspects of microprocessors.
2. To write programs for various applications.
3. To describe the architecture of the ARM7 microcontroller.
4. Interface various peripheral devices to the microcontrollers.
5. Design microcontroller based system for various applications

Unit I

An Introduction to Processor Design-Processor architecture and organization, Abstraction in hardware design The ARM Architecture-The Acorn RISC Machine, Architectural inheritance, The ARM programmer's model, ARM 3 stage pipelining organization, The ARM Instruction Set (excluding coprocessor instructions).

12 Hours

Unit II

The Thumb Instruction Set, Architectural Support for System Development, ARM7TDMI, Memory Hierarchy

12 Hours

Unit III

Architectural Support for Operating Systems, ARM CPU Cores-The ARM710T, ARM720T and ARM740T, Embedded ARM applications. Introduction to ARM Cortex M3, Architecture of ARM Cortex M3, Programming the ARM Cortex M3

12 Hours

Books:

1) "ARM system on chip architecture" by Steve Furber, Pearson addition.