

UNIT I

Chapter 1 : Embedded Systems 1-1 to 1-11

Syllabus : Introduction to Embedded systems, Characteristics, Challenges, Processors in Embedded systems, hardware Units and devices in an embedded system - Power source, memory, real-time clocks, timers, reset circuits, watchdog-timer reset, Input-output ports, buses and interfaces, ADC, DAC, LCD, LED, Keypad, pulse dialer, modem, transceivers, embedded software, software are tools for designing an embedded system.

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UNIT II

Chapter 2 : Embedded System on Chip (SOC)

2-1 to 2-44

Syllabus : Embedded SOC, ASIC, IP core, ASIP, ASSP, examples of embedded systems. Advanced architectures / processors for embedded systems- ARM, SHARC, DSP, Superscalar Units. Processor organization, Memory organization, Performance metrics for a processor, memory map and addresses, Processor selection and memory selection for real-time applications. Networked embedded systems- I2C, CAN, USB, Fire wire. Internet enabled systems - TCP, IP, UDP. Wireless and mobile system Protocols- IrDA, Bluetooth, 802.11, ZigBee.

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UNIT IV

Chapter 4 : Real Time Operating System 4-1 to 4-53

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UNIT V

Chapter 5 : Inter-process Communication

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UNIT VI

Chapter 6 : Multiprocessor Scheduling 6-1 to 6-43

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