IT2354 EMBEDDED SYSTEMS **L T P C**

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UNIT I EMBEDDED COMPUTING **9**

Challenges of Embedded Systems – Embedded system design process. Embedded processors – 8051 Microcontroller, ARM processor – Architecture, Instruction sets and programming.

UNIT II MEMORY AND INPUT / OUTPUT MANAGEMENT **9**

Programming Input and Output – Memory system mechanisms – Memory and I/O devices and interfacing – Interrupts handling.

UNIT III PROCESSES AND OPERATING SYSTEMS **9**

Multiple tasks and processes – Context switching – Scheduling policies – Interprocess communication mechanisms – Performance issues.

UNIT IV EMBEDDED SOFTWARE **9**

Programming embedded systems in assembly and C – Meeting real time constraints – Multi-state systems and function sequences. Embedded software development tools – Emulators and debuggers.

UNIT V EMBEDDED SYSTEM DEVELOPMENT **9**

Design issues and techniques – Case studies – Complete design of example embedded systems.

TOTAL : 45PERIODS

TEXT BOOKS

1. Wayne Wolf, “Computers as Components: Principles of Embedded Computer System Design”, Elsevier, 2006.

2. Michael J. Pont, “Embedded C”, Pearson Education , 2007.

REFERENCES:

1. Steve Heath, “Embedded System Design”, Elsevier, 2005.

2. Muhammed Ali Mazidi, Janice Gillispie Mazidi and Rolin D. McKinlay, “The 8051Microcontroller and Embedded Systems”, Pearson Education, Second edition, 2007.