GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: III

Computer Engineering

Subject Name **Embedded Systems**

Sr.No	Course content
1.	**Introduction:** Introduction to Embedded Systems: Classification, characteristics, design metrics, requirements, trends. Interface to the real-time operating systems, design case studies and design methodologies.
2.	Specifications of Embedded Systems
3.	Analysis of Embedded Systems
4.	**Synthesis:** Synthesis (hardware, software, memory, bus), retarget able usage of the software, specification and verification of the OS schedules, hard and soft real -time operating systems, and fault tolerant systems.
5.	**Verification:** Includes verification of embedded systems like formal verification, co -simulation, etc., estimation of hardware and software costs, partitioning.

Reference Books:

1. D. Gajski, F. Vahid, S.Narayan, and J. Gong, "Specification and Design of Embedded Systems", 1/E, Prentice Hall, 1994.
2. Jorgan Syaunstrup and W.Wolf, "Hardware Software Co -design: Principles and Practice", 1/E, Springer, 1997.
3. Articles in various journals and conference proceedings.
4. Karim Yaghmour,"Building Embedded Linux Systems", 1 /E, O'Reilly Media, 2003.
5. Michael Barr, "Programming Embedded Systems in C and C++", O'Reilly Media, 1999.