Code: CST309	**Compiler Design**	**Credit: 03** **L-T-P: (3-0-0)**
Course Content	Translators: Introduction to compilers, translators, and interpreters, compilation process. Lexical Analysis: Finite automata, Regular expressions, Design & implementation of lexical analysers. Syntax Analysis: Context Free Grammars, Derivation and Parse trees, Bottom-up and Top-down Parsing. Ambiguity, Shift Reduce Parser, Operator Precedence Parser, Predictive Parsers, canonical collection of items, LR parsers. Syntax directed translation: Syntax directed translation, Attributes, Intermediate codes, Three address codes. Symbol table organization: Hashing, linked list, tree structures. Memory allocation: Static and dynamic structure allocation. Code optimization: Basic blocks, Flow graphs, DAG, Global data flow analysis – ud-chaining, available expressions, Loop optimization. Code generation: Compilation of expression and control structures. Error detection and recovery.	
Important Text Books/References	1. Aho, Ullman and Sethi: Compilers – Principles, techniques and tools, Pearson Education. 2. Tremblay, Sorenson: The Theory and Practice of Compiler Writing, BSP. 3. Holub, Compiler Design in C, PHI.	