

B. Sc. (IT) Part II Semester -IV
Paper V
Compiler Construction

UNIT - I :

Compilers and translators, need, the structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling

UNIT - II :

High Level programming languages, Definitions of programming languages, The lexical and syntactic structure of a language, Data elements, structures, Operators, Assignment Statements, Data Environments, Parameter transmission, Storage management.

UNIT - III :

The role of the lexical analyzer, Approach to the design of lexical analyzer, Implementation of lexical analyzer, Context free grammars, Derivations and parse trees, Ambiguous grammar.

UNIT - IV :

Parsers, Shift-reduce parsing, Operator precedence parsing, Top-down parsing, predictive parsers, Symbol Table , Code Optimization: The principal source optimization, Loop optimization, The DAG representation of basic blocks, Code Generation : A machine model, a simple code generator, Register Allocation and assignment.