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Class Work:	50
Exam:	100
Total:	150
Duration of Exam:	3 Hrs.

NOTE: For setting up the question paper, question no 1 will be set up from all the four sections which will be compulsory and of short answer type. Two questions will be set from each of the four sections. The students have to attempt first common question, which is compulsory, and one question from each of the four sections. Thus students will have to attempt 5 questions out of 9 questions.

Section A

Introduction To Compilers: Compilers and translators need of translators, structure of compiler :its different phases, Compiler construction tools.

Lexical Analysis: Role of lexical analyzer, design of lexical analyzer, regular expressions , Specification and recognition of tokens, input buffering, A language specifying lexical analyzer. Finite automata, conversion from regular expression to finite automata, and vice versa, minimizing number of states of DFA, Implementation of lexical analyzer.

Section B

Syntax Analysis: Role of parsers, context free grammars, definition of parsing.

Parsing Technique: Shift- reduce parsing, operator precedence parsing, top down parsing, predictive parsing.

Section C

LR parsers, SLR, LALR and Canonical LR parser.

Syntax Directed Translations: Syntax directed definition, construction of syntax trees, syntax directed translation scheme, implementation of syntax directed translation, three address code, quadruples and triples.

Section D

Symbol Table & Error Detection And Recovery: Symbol tables, its contents and data structure for symbol tables; trees, arrays, linked lists, hash tables. Errors, lexical phase error, syntactic phase error, semantic error.

Code Optimization & Code Generation: Code generation, forms of objects code, machine dependent code, optimization, register allocation for temporary and user defined variables.

Text

Books:

1. Compilers Principle, Techniques & Tools - Alfred V. AHO, Ravi Sethi & J.D. Ullman; 1998 Addison Wesley.

Reference

Books:

1. Theory and practice of compiler writing, Tremblay & Sorenson, 1985, Mc. Graw Hill.
2. System software by Dhamdere, 1986, MGH.
3. Principles of compiler Design, Narosa Publication
4. Elements compiler Design, Dr. M. Joseph, University Science Press