SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc – Information Technology (Integrated)
Semester: IX
Syllabus with Effect from: June-2016

Paper Code: PS09CIIT03	Total Credit: 4
Title Of Paper: Compiler Design	

Unit	Description in Detail	Weightage (%)
I	**Introduction to Compilation** Language Processors The structure of a Compiler The Lexical Analysis Syntax Analysis Semantic Analysis Intermediate Code Generation Code Optimization Code Generation Symbol Table Management The Grouping of phases into Passes Compiler-Construction Tools Software Productivity Tools	25%
II	**Lexical Analysis** The Role of lexical analyzer Input buffering Specification of tokens Regular Expressions Regular Definitions Transition Diagrams Finite automata Nondeterministic Finite Automato Transition Tables Deterministic Finite Automato Conversion of NFA to DFA Construction of an NFA from a Reguler Expression	25%
III	**Syntax Analysis** Role of the Parser RepresentativeGramms Syntax Error Handling Error RecoverStrategies Context Free Gramma Eliminating Ambiguity Elimination of Left Recursion Left Factoring Top Down Parsing Recursive- Descent Parsing FIRST and FOLLOW Nonrecursive predictive Parsing Bottom up Parsing Handle Pruning	25%

	Shift-Reduce Parsing	
IV	**The Back-end of a Compiler** Intermediate- Code Generation Three –Address Code Quadruples Triples Issues in the Design of a Code Generator The Principal Sources of Optimization Symbol Tables	25%

Basic Text & Reference Books:-

- Aho A. V.,Lam M.S., Sethi R., Ullman J. D. : Compilers - Principles, Techniques and Tools, Addition-Wesley,2nd Edition.Publishing Company, 1988
- Dhamdhare D. M. : Compiler Construction, MacMillan India Limited, 1997
- Holub A. I. : Compiler Design in C, Prentice Hall of India Private Limited, 1993
- Appel A. W. : Modern Compiler Implementation in C, Foundation Books, 2000