



Indraprastha College for Women

University of Delhi

Work Plan for ODD SEMESTER – 2026

Course Name:	B.Sc. (Hons.) Computer Science/ B.A(P)
Paper Title:	Compiler Design
Unique Paper Code:	2343010025
Semester:	VII
Faculty(s):	Dr. Nisha
Year:	2026-2027

Work Plan			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
28 th July – 31 st July	Introduction		Overview of Compilation
1 st Aug - 3 rd Aug	Introduction		Overview of Compilation
5 th Aug- 10 th Aug	Introduction		Phases of Compiler
12 th Aug- 17 th Aug	Lexical Analysis		Role of Lexical Analyzer
19 th Aug- 24 th Aug	Lexical Analysis		Specification and recognition of tokens
26 th Aug- 31 st Aug	Lexical Analysis		Symbol table, error reporting
2 nd Sep-7 th Sep	Lexical Analysis		Regular expressions and definitions
9 th Sep- 14 th Sep	Lexical Analysis		Lexical Analyzer and Generator-Lex
16 th Sep- 21 st Sep	Syntax Analysis		CFGs, left recursion
23 rd Sep- 28 th Sep	Syntax Analysis		Left-factoring, top-down parsing
30 th Sep- 5 th Oct	Syntax Analysis		Bottom-up parsing
7 th Oct- 12 th Oct	Syntax Analysis		Parser Generator-yacc
14 th Oct- 19 th Oct	Intermediate Representation		Syntax Directed definitions, Evaluation order for syntax directed definitions
21 st Oct- 26 th Oct	Intermediate Representation		Intermediate Languages: Syntax Tree, Three address code

28 th Oct- 2 nd Nov	Intermediate Representation		Types and declarations, Translation of expressions
4 th Nov- 9 th Nov	Intermediate Representation		Loops & conditional statements, Type checking
11 th Nov- 16 th Nov	Storage organization & Code generation		Activation records, stack allocation
17 th Nov- 20 th Nov	Code Optimization		Principal source of optimization Peephole optimization

Unit	Contents/Syllabus
I	Introduction: Overview of compilation, Phases of a compiler.
II	Unit 2 Lexical Analysis: Role of a Lexical analyzer, Specification and recognition of tokens, Symbol table, Error reporting, Regular expressions and definitions , Lexical Analyzer Generator-Lex.
III	Unit 3 Syntax Analysis: CFGs, left recursion, left factoring, Top-down parsing- LL parser, Bottom-up parsing- LR parser, Parser Generator-yacc.
IV	Unit 4 Intermediate representations: Syntax Directed Definitions, Evaluation Orders for Syntax Directed Definitions, Intermediate Languages: Syntax Tree, Three Address Code, Types and Declarations, Translation of Expressions, loops and conditional statements, Type Checking.
V	Unit 5 Storage organization & Code generation: Activation records, stack allocation, Issues in Code Generation – Design of a simple Code Generator.
VI	Unit 6 Code optimization : Principal sources of optimization, Peephole optimization.
S. No.	Name of Authors/Books/Publishers
1.	Aho, A., Lam, M., Sethi, R., & Ullman, J. D. <i>Compilers: Principles, Techniques, and Tools</i> , 2 nd edition, Addison Wesley, 2006.
2.	
3.	

4.	
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	Paper Components		
Credits	Lecture (L)	Tutorial (T)	Practical (P)
4	3	0	1
Assessment Scheme			
S.No.	Component	Marking Scheme	Total Marks
1	Internal Assessment - Assignment/Quiz/Project/ Presentation - Class Test - Attendance		30
		12	
		12	
		6	
2.	Continuous Assessment (Tutorial) - Activity 1 - Activity 2 - Attendance		
3.	Practical - Continuous Assessment - End Term Written/Practical Exam - Viva		40
		10	
		20	
		10	
4.	End Semester Examination		90