Curriculum Planner

**BSc. (Hons) Discipline Specific Core Semester VII (NEP-UGCF 2022)**

**Compiler Design**

**(Effective for Academic Year 2025-26)**

Name of the Teacher: - Dr. Dharmendera Kumar Meena

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| **Sr.**  **No.** | **Topics** | **Chapter** | **Months** | **Reference** |
| **1** | **UNIT I:** Overview of compiler, Phases of compiler | 1.1, 1.2 | **August-2025** | **[1]** |
| **2** | **UNIT 2: Lexical analysis:** role of Lexical analyser, specifications and recognition of tokens,symbol table, error reporting, regular expressions and definitions, lexical analyser - LEX | 3.1, 3.2,3,3, 2.7,  3.4(3.4.1, 3.4.2,  3.4.3), 3.5, | **August-2025** | **[1]** |
| **3** | **UNIT 3:** CFGs, left recursion, left factoring, Top down parsing - LL parser, Bottom-up parsing - LR parser, Parser generator -YACC | 4.1.1, 4.1.2,  4.1.3, 4.2(4.2.1 to  4.2.5), 4.3, 4.4,  4.5, 4.6, 4.9 | **September -2025** | **[1]** |
| **4** | **UNIT 4:** 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 | 5.1,5.2  6.1.1,6.2(6.2.1 to  6.2.3), 6.3(6.3.1  to 6.3.5), 6.4,  6.5(6.5.1 & 6.5.2),  6.6(6.6.1 to 6.6.4) | **September -2025** | **[1]** |
| **5** | **UNIT 5:** Activation records, stack allocation, Issues in code generation  - design of a code generator | 7.1, 7.2  8.1, 8.2, 8,3(only  introduction), 8.4  (8.4.1 to 8.4.3) | **October-2025** | **[1]** |
| **6** | **UNIT 6:** Principal sources of optimization, peephole optimization | 8.7 | **November-2025** | **[1]** |

# References Text Books

1. Aho, A., Lam, M., Sethi, R., & Ullman, J. D. (2006). *Compilers: Principles,*

*Techniques, and Tools*. 2nd edition. Addison Wesley.

[https://theswissbay.ch/pdf/Gentoomen%20Library/Programming/Compiler/](https://theswissbay.ch/pdf/Gentoomen%20Library/Programming/Compiler/Aho%20-%20Compilers%20-%20Principles%2C%20Techniques%2C%20and%20Tools%202e.pdf) [Aho%20-%20Compilers%20-](https://theswissbay.ch/pdf/Gentoomen%20Library/Programming/Compiler/Aho%20-%20Compilers%20-%20Principles%2C%20Techniques%2C%20and%20Tools%202e.pdf)

[%20Principles%2C%20Techniques%2C%20and%20Tools%202e.pdf](https://theswissbay.ch/pdf/Gentoomen%20Library/Programming/Compiler/Aho%20-%20Compilers%20-%20Principles%2C%20Techniques%2C%20and%20Tools%202e.pdf)