## Lesson Plan

**Name of Faculty** : **Ms.Bharti Sethi, Assistant Professor, CSE**
**Discipline** : **Computer Science and Engineering**
**Semester** : **7th sem (odd)**
**Subject** : **Compiler Design (CSE-405E)**
**Lesson Plan Duration** : **15 weeks (AUG 22-DEC 22)**
**Work Load (Lecture/Practical) per week (in hours): Lectures-03 hours**

| WEEK | THEORY | | Topic Covered, Date and Remarks | | |
|---|---|---|---|---|---|
| | Day | Topic (Including Assignment/Test) | Date | HOD | Director-Principal |
| 1 | 1 | Compiler and translator, need of translator | | | |
| | 2 | Structure of compiler and its phases | | | |
| | 3 | Compiler construction tools | | | |
| 2 | 4 | Regular expressions | | | |
| | 5 | Specification and recognition of tokens | | | |
| | 6 | Input buffering | | | |
| 3 | 7 | Conversion from regular expression to finite automata | | | |
| | 8 | Shift reduce parsing | | | |
| | 9 | Top down parsing | | | |
| 4 | 10 | Predictive parsing | | | |
| | 11 | Syntax directed translation | | | |
| | 12 | Construction of syntax trees | | | |
| | | 1st Minor Test | | | |
| 5 | 13 | Symbol table and its types | | | |
| | 14 | Contents of symbol table | | | |
| | 15 | Data structure for symbol table | | | |
| 6 | 16 | Arrays and its attributes | | | |
| | 17 | Linked lists and their storage | | | |
| | 18 | Hash tables and collisions | | | |
| 7 | 19 | Lexical phase errors | | | |
| | 20 | Syntactic phase errors | | | |
| | 21 | Semantic errors | | | |
| 8 | 22 | Machine dependent code | | | |
| | 23 | Code generation | | | |
| | 24 | Register allocation for temporary variables | | | |
| 9 | 25 | User defined variables and their scope | | | |
| | 26 | Loop optimization | | | |
| | 27 | Scope optimization | | | |
| 10 | 28 | Machine independent code | | | |
| | 29 | First and follow algorithms | | | |
| | 30 | First and follow numerical | | | |
| | | 2nd Minor Test | | | |
| 11 | 31 | LR parsers | | | |
| | 32 | SLR parsers | | | |
| | 33 | Canonical parsers | | | |
| 12 | 34 | Machine dependent code | | | |
| | 35 | Code generation | | | |
| | 36 | Forms of object code | | | |
| 13 | 37 | Register allocation for temporary variables | | | |
| | 38 | User defined variables and their scope | | | |
| | 39 | Loop optimization | | | |
| 14 | 40 | Scope optimization | | | |
| | 41 | Dag representation | | | |
| | 42 | Machine independent code | | | |
| 15 | 43 | Various phases of parsing | | | |
| | 44 | LALR Parser | | | |
| | 45 | Queries | | | |