MODULE 1

1. **Design of DFA and NFA**
2. **Formal Definition of DFA and NFA and Epsilon NFA**
3. Extended Transition Functions
4. **NFA to DFA conversion (Subset Construction Technique)**
5. Regular Grammar (Definition)

MODULE 2

1. Regular Expression
2. **RE to FA Conversion**
3. **Closure Properties of Regular Languages**
4. State Minimization

MODULE 3

1. **Myhill Nerode Theorem-Equivalence Class Construction**
2. Context Free Grammar (Definition)
3. **Derivations/Parse Trees/Ambiguity Checking**
4. **Normal Forms-CNF/GNF**

MODULE 4

1. Push Down Automata –Formal Definition
2. **Design of PDAs( With Instantaneous Description)**
3. Pumping Lemma

MODULE 5

1. Context Sensitive Grammar
2. **Design of Turing Machine ( With Instantaneous Description)**
3. **Halting Problem**
4. Recursive and Recursively Enumerable languages