



**VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN**  
**(Autonomous)**  
**DEPARTMENT OF INFORMATION TECHNOLOGY**



**Branch / Year / Semester:** Information Technology / III B.Tech IT / 05

**Subject Code / Subject Name:** U15ITE06/ PRINCIPLES OF PROGRAMMING LANGUAGES

**LESSON PLAN**

<b>Session No.</b>	<b>Topics Covered</b>	<b>Duration in Minutes</b>	<b>Teaching AID</b>	<b>Books Referred</b>
<b>UNIT – I</b> <b>SYNTAX AND SEMANTICS</b>				
1	Evolution of programming languages	45	BB	R1
2	Describing syntax	45	BB	R1
3	Context-free grammars	45	BB	R1
4	Attribute grammars	45	BB	R1
5	Describing semantics	45	BB	R1
6	Lexical analysis	45	BB	R1
7	Parsing	45	PPT	R1
8	Recursive	45	PPT	R1
9	Decent <ul style="list-style-type: none"><li>➤ Bottom-up parsing</li><li>➤ Top Down parsing</li></ul>	45	BB	R1
<b>UNIT – II</b> <b>DATA TYPES, EXPRESSION AND STATEMENTS</b>				
1	Names – variables	45	BB	R1
2	binding – type checking <ul style="list-style-type: none"><li>➤ scope</li><li>➤ scope rules</li></ul>	45	BB	R1
3	Lifetime and garbage collection	45	BB	R1
4	Primitive data types, strings	45	PPT	R1
5	Array types <ul style="list-style-type: none"><li>➤ associative arrays</li><li>➤ record types</li></ul>	45	BB	R1
6	Union types	45	BB	R1
7	Pointers and references <ul style="list-style-type: none"><li>➤ Arithmetic expressions</li><li>➤ overloaded operators</li></ul>	45	PPT	R1

8	Type conversions <ul style="list-style-type: none"> <li>➤ relational and Boolean expressions</li> <li>➤ assignment statements</li> </ul>	45	PPT	R1
9	Mixed mode assignments <ul style="list-style-type: none"> <li>➤ control structures</li> <li>➤ Selection</li> <li>➤ iterations</li> <li>➤ branching</li> <li>➤ Guarded commands</li> </ul>	45	BB	R1
<b>UNIT – III</b>				
<b>SUBPROGRAMS AND IMPLEMENTATION</b>				
1	Fundamentals of Subprograms	45	BB	R1
2	Design issues	45	BB	R1
3	Local referencing	45	BB	R1,R2
4	Parameter passing methods	45	BB	R1,R2
5	Overloaded sub-programs Generic sub-programs	45	BB	R1
6	Design issues for functions	45	BB	R1
7	Semantics of call and return	45	BB	R1
8	Implementing simple subprograms Stack dynamic local variables	45	BB	R1,R2
9	Nested subprograms <ul style="list-style-type: none"> <li>➤ Blocks</li> <li>➤ Dynamic scoping</li> </ul>	45	BB	R1
<b>UNIT – IV</b>				
<b>OBJECT-ORIENTATION, CONCURRENCY AND EVENT HANDLING</b>				
1	Object-orientation	45	PPT	R1
2	Design issues for OOP languages	45	PPT	R1
3	Implementation of object-oriented constructs <ul style="list-style-type: none"> <li>➤ concurrency</li> <li>➤ Semaphores</li> <li>➤ Monitors</li> </ul>	45	BB	R1
4	message passing	45	BB	R1
5	Java threads	45	PPT	R1
6	Statement level concurrency	45	PPT	R1
7	Exceptions	45	BB	R1
8	Exception Propagation	45	BB	R1
9	Exception handling <ul style="list-style-type: none"> <li>➤ Event handling</li> </ul>	45	BB	R1

<b>UNIT – V</b>				
<b>FUNCTIONAL AND LOGIC PROGRAMMING LANGUAGES</b>				
1	Introduction	45	PPT	R2
2	fundamentals of FPL	45	PPT	R2
3	LISP, ML	45	BB	R2
4	Haskell	45	BB	R2
5	Application of Functional Programming Languages	45	BB	R2
6	Introduction to logic and logic programming	45	BB	R2
7	Programming with Prolog	45	BB	R2
8	Application of logic programming	45	PPT	R2
9	Revision Unit – V	45	PPT	R2

<b>REFERENCES:</b>	
1.	Robert W. Sebesta, “Concepts of Programming Languages”, Tenth Edition, Addison Wesley, 2012.
2.	Michael L. Scott, “Programming Language Pragmatics”, Third Edition, Morgan Kaufmann, 2009.
3.	R. Kent Dybvig, “The Scheme programming language”, Fourth Edition, MIT Press, 2009.
4.	Richard A. O’Keefe, “The craft of Prolog”, MIT Press, 2009.
5.	Jeffrey D. Ullman, “Elements of ML programming”, Second Edition, Prentice Hall, 1998.