

# Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information and Technology

Lesson plan of Faculty member for the academic year 2020–21

Class: III B Tech

Branch-Section: IT- A

Semester:I

Subject: Principles Of Programming Languages

Lectures per week:3 (Hrs)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT - I: Preliminary Concepts</b>		
1	Reasons for studying concepts of programming languages	2 September 2020
2	Programming domains, Language Evaluation Criteria	5 September 2020
3	Influences on Language design, Language categories	7 September 2020
4	Programming Paradigms – Imperative, Object Oriented	9 September 2020
5	Functional Programming, Logic Programming	12 September 2020
6	Programming Language Implementation – Compilation and Virtual Machines	14 September 2020
7	Programming environments	16 September 2020
8	Syntax and Semantics: general Problem of describing Syntax and Semantics	19 September 2020
9	Formal methods of describing syntax - BNF, EBNF	21 September 2020
10	Common programming languages features	23 September 2020
11	Parse trees, ambiguous grammars attribute grammars	26 September 2020
12	Denotational semantics and axiomatic semantics for common programming language features	28 September 2020
<b>UNIT-II: Names, Data Types, Expressions, Control Statements</b>		
13	Names, Variable, concept of binding	30 September 2020
14	Type checking, strong typing, type compatibility	3 October 2020
15	Named constants, variable initialization	5 October 2020
16	Introduction, primitive, character, user defined, array, associative, record, union, pointer and reference types	7 October 2020
17	Design and implementation use related to these types.	10 October 2020
18	Expressions and Statements: Arithmetic relational and Boolean expressions	12 October 2020
19	Short circuit evaluation mixed mode assignment, Assignment Statements	14 October 2020
20	Control Structures – Statement Level, Compound Statements, Selection, Iteration	26 October 2020
<b>UNIT-III: Subprograms and Blocks, Abstract Data types</b>		
21	Fundamentals of sub-programs	28 October 2020
22	Scope of life time of variables	31 October 2020

23	Static and dynamic scope	9 November 2020
24	Design issues of subprograms and operations	11 November 2020
25	Local referencing environments, parameter passing methods	16 November 2020
26	Overloaded sub-programs, generic sub-programs	18 November 2020
27	Parameters that are sub-program names	21 November 2020
28	Design issues for functions user defined overloaded operators, Co routines.	23 November 2020
29	The Concept of Abstraction, Introductions to Data Abstraction	25 November 2020
30	Design Issues, Language Examples, Parameterized ADT	28 November 2020
31	Encapsulation Constructs, Naming Encapsulations	2 December 2020
<b>UNIT-IV: Concurrency</b>		
32	Concurrency: Subprogram level concurrency, semaphores	5 December 2020
33	Message passing, Java threads, C# threads	7 December 2020
34	Exception handling: Exceptions, exception Propagation	9 December 2020
35	Exception handler in Ada, C++ and Java	12 December 2020
36	Logic Programming Language: Introduction and overview of logic programming	14 December 2020
37	Basic elements of prolog, application of logic programming	16 December 2020
<b>UNIT-V: Functional Programming Languages</b>		
38	Introduction, fundamentals of FPL, LISP, ML, Haskell	19 December 2020
39	Application of Functional Programming Languages and comparison of functional and imperative Languages	21 December 2020
40	Scripting Language: Pragmatics, Key Concepts	23 December 2020
41	Case Study: Python- Values and Types, Variables	28 December 2020
42	Storage and Control, Bindings and Scope	30 December 2020
43	Procedural Abstraction, Separate Compilation, Module Library	2 January 2021

**Text books:**

1. Concepts of Programming Languages Robert. W. Sebesta 10/E, Pearson Education.
2. Programming Language Design Concepts, D. A. Watt, Wiley Dreamtech, 2007.

**Reference books:**

1. Programming Languages, 2nd Edition, A.B. Tucker, R. E. Noonan, TMH.
2. Programming Languages, K. C. Loudon, 2nd Edition, Thomson, 2003

Name and signature of the faculty: V Veda Sahithi

Name and signature of Head of the Department: C Murugamani