Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2016–17

Class: II B Tech Branch-Section: IT-A Semester: II

Subject: Principles of Programming Languages Lectures per week: 4

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Preliminary Concepts		
1	Introduction, Reasons for studying, concepts of programming languages	10 December 2016
2	Introduction, Reasons for studying, concepts of programming languages	13 December 2016
3	Programming domains	14 December 2016
4	Language Evaluation Criteria	17 December 2016
5	Language Evaluation Criteria	19 December 2016
6	Influences on Language design	20 December 2016
7	Language categories	21 December 2016
8	Programming Paradigms – Imperative, Object Oriented	24 December 2016
9	functional Programming , Logic Programming	27 December 2016
10	Programming Language Implementation – Compilation and Virtual Machines	28 December 2016
11	programming environments	31 December 2016
12	**Syntax and Semantics:** general Problem of describing Syntax and Semantics	2 January 2017
13	formal methods of describing syntax - BNF, EBNF for	3 January 2017
14	common programming languages features	4 January 2017
15	parse trees, ambiguous grammars attribute grammars	7 January 2017
16	Denotational semantics and axiomatic semantics for common programming language features.	9 January 2017
UNIT-II: **Data types**		
17	Introduction, primitive, character, user defined, array, associative, record, union, pointer and reference types.	10 January 2017
18	Design and implementation uses related to these types.	11 January 2017
19	Names, Variable, concept of binding.	16 January 2017
20	type checking, strong typing, type compatibility	17 January 2017
21	Named constants, variable initialization.	18 January 2017
22	**Expressions and Statements:** Arithmetic relational and Boolean expressions,	18 January 2017
23	Short circuit evaluation mixed mode assignment, Assignment Statements,	21 January 2017
24	Control Structures – Statement Level, Compound Statements, Selection, Iteration	23 January 2017
25	Control Structures – Statement Level, Compound Statements, Selection, Iteration	24 January 2017
UNIT-III: **Subprograms and Blocks**		

26	Fundamentals of sub-programs.	25 January 2017

28	Scope of life time of variables	20 ebruary 2017
29	static and dynamic scope	21 February 2017
30	design issues of subprograms and operations	22 February 2017
31	local referencing environments, parameter passing methods	25 February 2017
32	overloaded sub-programs, generic sub-programs	27 February 2017
33	parameters that are sub-program names	28 February 2017
34	design issues for functions user defined overloaded operators,	1 March 2017
35	Co routines.	1 March 2017
UNIT-IV: **Abstract Data types**		
36	Abstractions and encapsulation, introductions to data abstraction, ,	4 March 2017
37	design issues, language examples	6 March 2017
38	C++ parameterized ADT, object oriented programming in small talk, C++, Java, C#, Ada 95	7 March 2017
39	**Concurrency:** Subprogram level concurrency, semaphores, monitors.	8 March 2017
40	Massage passing, Java threads, C# threads.	11 March 2017
41	**Exception handling:** Exceptions, exception Propagation.	13 March 2017
42	Exception handler in Ada, C++ and Java	14 March 2017
43	**Logic Programming Language:** Introduction and overview of logic programming,	15 March 2017
44	Basic elements of prolog, application of logic programming.	18 March 2017
UNIT-V: **Functional Programming Languages**		
45	Introduction, fundamentals of FPL, LISP, ML, Haskell.	20 March 2017
46	Application of Functional Programming Languages and comparison of functional and imperative Languages.	21 March 2017
47	Application of Functional Programming Languages and comparison of functional and imperative Languages.	22 March 2017
48	**Scripting Language:** Pragmatics, Key Concepts	25 March 2017
49	Case Study: Python- Values and Types, Variables.	28 March 2017
50	Storage and Control, Bindings and Scope,	3 April 2017
51	Procedural Abstraction.	4 April 2017
52	Separate Compilation, Module Library.	8 April 2017
53	Separate Compilation, Module Library.	10 April 2017
54	Previous Question Papers Discussion	11 April 2017
55	Previous Question Papers Discussion	12 April 2017

TEXT BOOKS:

1. Concepts of Programming Languages Robert.W. Sebesta 8/e, Pearson Education, 2008.
2. Programming Language Design Concepts, D. A. Watt, Wiley dreamtech, rp-2007.
3. B.S Publications, 2005.

Name and signature of the faculty: Y. Prashanth ----

Name and signature of Head of the Department: Sandeep Kumar.K ----