

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-B

Semester: II Subject:

Principles of Programming Languages

Lectures per week: 4

| Lecture Number | Topics to be covered | Date (s) |
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| UNIT – I: Preliminary Concepts | | |
| 1 | Introduction, Reasons for studying, concepts of programming languages | 09 December 2016 |
| 2 | Introduction, Reasons for studying, concepts of programming languages | 13 December 2016 |
| 3 | Programming domains | 14 December 2016 |
| 4 | Language Evaluation Criteria | 16 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 | 23 December 2016 |
| 9 | functional Programming , Logic Programming | 27 December 2016 |
| 10 | Programming Language Implementation – Compilation and Virtual Machines | 28 December 2016 |
| 11 | programming environments | 30 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 | 6 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, | 20 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 | | |

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| 26 | Fundamentals of sub-programs. | 25 January 2017 |
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| 27 | Scope of life time of variables | 20 February 2017 |
| 28 | static and dynamic scope | 21 February 2017 |
| 29 | design issues of subprograms and operations | 22 February 2017 |
| 30 | local referencing environments, parameter passing methods | 27 February 2017 |
| 31 | overloaded sub-programs, generic sub-programs | 28 February 2017 |
| 32 | parameters that are sub-program names | 28 February 2017 |
| 33 | design issues for functions user defined overloaded operators, | 1 March 2017 |
| 34 | Co routines. | 3 March 2017 |

UNIT-IV: Abstract Data types

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| 35 | Abstractions and encapsulation, introductions to data abstraction. | 6 March 2017 |
| 36 | Abstractions and encapsulation, introductions to data abstraction. | 7 March 2017 |
| 37 | design issues, language examples | 8 March 2017 |
| 38 | C++ parameterized ADT, object oriented programming in small talk, C++, Java, C#, Ada 95 | 10 March 2017 |
| 39 | Concurrency: Subprogram level concurrency, semaphores, monitors. | 13 March 2017 |
| 40 | Message passing, Java threads, C# threads. | 14 March 2017 |
| 41 | Exception handling: Exceptions, exception Propagation. | 15 March 2017 |
| 42 | Exception handler in Ada, C++ and Java | 17 March 2017 |
| 43 | Logic Programming Language: Introduction and overview of logic programming, | 20 March 2017 |
| 44 | Basic elements of prolog, application of logic programming. | 21 March 2017 |

UNIT-V: Functional Programming Languages

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| 45 | Introduction, fundamentals of FPL, LISP, ML, Haskell. | 22 March 2017 |
| 46 | Application of Functional Programming Languages and comparison of functional and imperative Languages. | 28 March 2017 |
| 47 | Application of Functional Programming Languages and comparison of functional and imperative Languages. | 3 April 2017 |
| 48 | Scripting Language: Pragmatics, Key Concepts | 4 April 2017 |
| 49 | Case Study: Python- Values and Types, Variables. | 8 April 2017 |
| 50 | Storage and Control, Bindings and Scope, | 10 April 2017 |
| 51 | Procedural Abstraction. | 11 April 2017 |
| 52 | Separate Compilation, Module Library. | 13 April 2017 |
| 53 | Previous Question Papers Discussion | 13 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 Head of the Department:-Sandeep Kumar.K---