AMHE08 PRINCIPLE OF PROGRAMMING LANGUAGES

UNIT-1 PROGRAMMING DOMAINS.

1.1 Language Evaluation.

1.2 Programming paradigms

1.3 Imperative programming, Functional programming,

1.4 Object oriented programming, Logic programming.

1.5 Formal methods of describing syntax and semantics

1.6 Backus Naur Form, Attribute grammars.

1.7 Describing semantics

1.8 Denotational semantics.

UNIT-2 DATA

2.1 Types, Names, Variables,

2.2 Bindings, Scope and lifetime,

2.3 Referencing Environments-Named Constants

2.4 Variable Initialization-Subprograms

2.5 Parameter Passing-Coroutines.

UNIT-3 DATA ABSTRACTION AND ENCAPSULATION.

3.1 Polymorphism and inheritance.

3.2 Features of object-oriented languages

3.3 Smalltalk, C++ and Java.

3.4 Design and implementation issues.

3.5 Exception handling.

UNIT-4 FUNCTIONAL PROGRAMMING LANGUAGES

4.1 Lambda calculus

4.2 Introduction to pure LISP.

4.3 Application of functional programming languages.

4.4 Logic programming languages,

4.5 A brief introduction to predicate calculus

4.6 Horn clauses, Logic programming.

4.7 Introduction to Prolog.

4.8 Applications of Logic programming.

References Book:

1. Robert W.Sebesta, "Concepts of Programming Languages", 8th edition, Addison Wesely
2. Ravi Sethi, "Programming Languages-concepts and constructs", 2nd edition, Addison Wesely, ISBN: 81- 7758-422-7.
3. Michael L. Scott, "Programming Language Pragmatics – 3rd edition, Morgan Kaufmann
4. Kenneth.C.Louden, "Programming Languages: Principles and Practices", 2nd edition. Thomson Learning.