

**PDFZilla - Unregistered**  
Total No. of printed pages = 5

CS 131405

Roll No. of candidate

--	--	--	--	--	--	--	--	--	--

2017

B. Tech 4th Semester End-Term Examination

**PDFZilla - Unregistered**  
PRINCIPLES OF PROGRAMMING  
LANGUAGE

Full Marks-100 Pass Marks-35 Time-Three hours

The figures in the margin indicate full marks  
for the questions.

1. Answer any *six* questions :  $6 \times 2 = 12$
- (a) What do you mean by programming paradigm ?
  - (b) What are context free grammars ?
  - (c) What are vector and slice ?
  - (d) Define CIP and CEP.
  - (e) What is the use of symbol table ?
  - (f) **PDFZilla - Unregistered**  
Give the vital difference between implicit and explicit sequence control.

[Turn over



(g) What is a block structure ?

(h) Compare logic programming and concurrent programming.

2. Answer any six questions :  $6 \times 3 = 18$

(a) When is a language said to be orthogonal ?

(b) What do you mean by syntax and semantics of a language ?

(c) Give the differences between type casting and type coercion.

(d) Describe parameter transmission call by value and call by reference.

(e) Give the syntax of the following in PASCAL :

(i) Variable declaration

(ii) Loop statement (any one loop)

(f) What is an activation record ? What are its contents ?

(g) Compare the operators EQUAL and EQ in LISP.

(h) What do you mean by unification in PROLOG ?

3. Answer any eight of the following questions :  $8 \times 5 = 40$

(a) Describe the two language implementation techniques for bridging the gap between high and low level languages.

(b) Explain the concept of a data object. Also indicate various factors to which a data object may bind to.

(c) Describe the jump table implementation of a case statement.

(d) Write the three basic aspects of storage management.

(e) Describe the static and dynamic scope of an identifier.

(f) What is a referencing environment ? Write its components.

(g) State the functionalities of Java applets.

(h) Write a C++ program to overload different types of constructors.



(i) Give the memory structure of LISP. Write about memory management using LISP.

(j) What are the different parallelism mechanisms introduced in Ada programming language ?

4. Answer any *three* of the following questions :

(a) Explain in detail the various stages of language translation. 10

(b) Describe the forms of statement level sequence control. Explain how structured sequence control using the forms of basic statement level is achieved. 3+7=10

(c) Describe the following functions in Scheme language : 2+2+2+2+2=10

(i) arithmetic

(ii) quote

(iii) car

(iv) cdr

(v) cons.

(d) (i) Define facts, rule and goals in PROLOG.

(ii) Consider the following set of axioms :

(I) Every boy or a girl is a child.

(II) Every child gets a doll or a train or a lump of coal.

(III) No boy gets any doll.

(IV) No child who is good gets any lump of coal.

(V) Jack is a boy.

From the above statements using PROLOG conclude that "If Jack does not get a train, then Jack is not a good boy."

5+5=10

(e) Write briefly on imperative programming language. 10