

II B.Tech II Semester Supplementary Examinations, April/May 2005
PROGRAMMING LANGUAGES
 (Common to Computer Science & Engineering and Information
 Technology)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Define language L. What are the characteristics of context free grammars?
 (b) Give a brief note about rules for translating a syntax graph into a parser.
2. (a) What are the four components of a variable? Demonstrate with a block diagram.
 (b) What is meant by referential transparency?
 (c) Generate the ADA parse tree for the expression: not A * *B * C/D > -E + F and G
3. (a) What is type equivalence? Give a brief note about ADA types
 (b) What are the string processing features of SNOBOL. Illustrate with suitable examples.

4. What are the stack entries for run-time implementation of the following example of nested blocks.

```

A : beginrealx, y;
    Procedure p(..)
        Beginintegeri;
        ---
        x = x + i;
        ---
    endP
    ---
B : beginBooleanx, y;
    ---
    C : P(..)
    D : beginintegerx, y;
        ---
        E : P(..)
        EndD
        ---
    EndB
    ---
EndA
  
```

5. What are different parameters passing and evaluation mechanisms? Give the list of languages which support these parameter passing mechanism. Illustrate with suitable examples.

6. (a) What are the features of module defined in MODULA.
(b) What is meant by exception? What are the keywords used in PL/1 and ADA languages for the implementation of exception handlers. What are meanings of these keywords.
7. (a) What is semaphore? How the wait and signal operations are defined.
(b) How the concurrency in Ada is implemented.
8. Write a short note about the following:
 - (a) Monitors
 - (b) Type coercion
 - (c) Heap storage
 - (d) Features of PROLOG
