Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/M.Tech (CSE)/SEM-2/CS-1013/2010

2010

PRINCIPLES OF PROGRAMMING LANGUAGES

Time Allotted : 3 Hours | Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Part – I

Answer any *four* of the following. 4 × 5 = 20

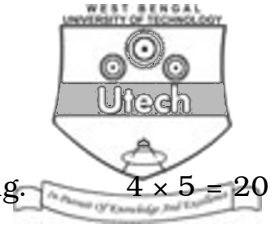
1. Discuss various criteria for the design of programming language. 5

2. Explain virtual function in C++ with a suitable example. 5

3. Discuss Syntax directed flow. 5

4. Discuss Activation record with proper justification. 5

5. Compare and contrast NFA and DFA. 5



Part – II

Answer any *four* of the following. 4 × 5 = 20

6. Explain "deep binding in Pascal" with proper example. 5

7. Explain Stack abstraction in Modula-2. 5

8. What are nested subroutines ? Discuss nested subroutines in Pascal with example. 5

9. Using your favourite imperative language, give an example of each of the following : 5

   a) A lexical error, detected by the scanner.

   b) A Syntax error, detected by the parser.

10. Describe variants in Ada. Discuss with statement with example. 5

Part – III

Answer any *three* of the following. 3 × 10 = 30

11. a) Create a CFG that generates all possible arithmetic expression with +, –, *, / and variables x, y, and z. 5

    b) Discuss some compiler construct tool. How are parameters passed when a procedure is called ? Describe the use of LEX. 5

12. a) Write about the various control constructs in C++ with examples. 7

    b) Explain Hidden Identifier. 3

13. a) Construct SLR parsing table for

    $S \rightarrow AS \mid 0, A \rightarrow SA \mid 1$ 6

    b) Explain LALR parsing, justify how it is efficient over SLR parsing. 4

14. a) Explain about various inheritance types in JAVA with examples. 5

    b) Define concurrency. Explain how concurrency is handled in JAVA. 5