D 42097 (Pages 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2007

Computer Science Engineering

PTCS/CS 2K 503—PROGRAMMING LANGUAGE CONCEPTS

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Part A

I. (a) What are the benefits of higher-level languages ?

(b) What is meant by call-by-reference ? What is its effect in parameter passing ?

(c) What is in-line function expansion ? What are its advantages ?

(d) What are constructors and destructors ? What is their role in object-oriented programming ?

(e) With example, explain the various operations associated with lists.

(f) What is parametric polymorphism ? Give example.

(g) Define a relation in logic programming.

(h) What is a control in logic programming ? What are its characteristics ?

(8 × 5 = 40 marks)

Part B

II. (a) (i) Define a context free grammar explaining the components in it. (7 marks)

(ii) "Programmng language act as the main interface between machine and user". Comment on the above statement.

(8 marks)

Or

(b) Explain what is meant by syntax and semantic in programming languages with example.

III. (a) Discuss in detail the important features of object oriented programming languages.

Or

(b) What is inheritance ? What are the different types of inheritances supported in programming languages ? Give example.

IV. (a) (i) Explain with example, the expression evaluation in functional programming. (7 marks)

(ii) What is binding ? How binding between function name and value take place in functional programming ?

(8 marks)

Or

Turn over

(b) Discuss the implementation issues associated with storage allocation and deallocation for lists

V. (a) Discuss the data structures supported in prolog.

Or

(b) Explain in detail how parallelism is achieved by hardware.

[4 × 15 = 60 marks]