D 27182

Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2006

CS 2 K 503/PTCS 2 K 503—PROGRAMMING LANGUAGE CONCEPTS

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Part A

I. (a) Define a context free grammar. With an example specify the four parts in it.

(b) What is macro expansion ? What is the role of macro processor ?

(c) What is information hiding ? How they enhance the features of object oriented programming ?

(d) Explain the term dynamic allocation.

(e) What is an iterator ? Give example.

(f) What are the two approaches for deallocation of cells for storage management ?

(g) What is logic programming ?

(h) Differentiate between unification and substitution in logic programming.

(8 × 5 = 40 marks)

Part B

II. (a) (i) Brief the benefits of higher level languages. (7 marks)

(ii) What is an activation tree ? Give example and explain. (8 marks)

Or

(b) What are the different ways of passing parameters ? Explain them with example. (15 marks)

III. (a) Explain in detail the major components of object oriented programming. (15 marks)

Or

(b) (i) What are templates ? How they are useful in generic programming ? (7 marks)

(ii) What is inheritance ? What are the different types of inheritance supported in programming languages ? (8 marks)

IV. (a) Discuss about lists and various operations on lists in functional programming with example. (15 marks)

Or

(b) (i) With example, explain parametric polymorphism. (7 marks)

(ii) What is binding ? How binding take place in functional programming. (8 marks)

V. (a) Explain how controls in prolog are characterised, with examples.

Or

(b) Discuss the techniques for synchronised access to shared variables with an illustration. (15 marks)

[4 × 15 = 60 marks]