

5th 9

Exam.Code:0917
Sub. Code: 6789

1128
B.E. (Computer Science and Engineering)
Fifth Semester
CS-504: Principles of Programming Languages

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit. Assume missing data if any suitably.

x-x-x

- I. Write short note on:-
- a) Abstraction
 - b) BNF Grammars
 - c) Virtual functions and classes
 - d) Type Checking in C++
 - e) Heap Storage Management (5x2)

UNIT - I

- II. a) Discuss the various phases of compiler with block diagram.
b) What is shared data problem? Explain your idea for solving shared data problem. (5,5)
- III. a) Differentiate between call by value and call by reference parameter passing mechanism with the help of suitable example.
b) Explain the various programming language paradigms. (5,5)
- IV. a) Explain public and private inheritance.
b) What do you mean by monitor? How synchronization is achieved using monitors? (5,5)

UNIT - II

- V. a) What is an abstraction in object oriented programming and why is it important?
b) What is an abstract class, and when should it be used? (5,5)
- VI. a) Explain how polymorphic data types help to implement the parametric polymorphism?
b) Explain the concept of inheritance and its types with suitable example of each of them. (5,5)
- VII. a) How heap storage management is done in C++ and Prolog programming language?
b) What do you mean by Garbage collection? Explain various ways of reclaiming garbage? (5,5)

x-x-x