

Total No. of printed pages = 3

CSE-3201/P of PL/6th Sem/2013/M

PRINCIPLES OF PROGRAMMING LANGUAGE

Full Marks – 100

Pass Marks – 30

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. (a) What is the role of a programming language in computing community? Write the factors that influence the design of programming languages. 2+8=10
- (b) Briefly explain the features of structured functional and logic programming languages. 10
2. (a) Explain BNF with suitable example. What is EBNF? 7+5=12
- (b) Discuss about exception handling in Java. 8

[Turn over

3. (a) What are the different ways of parameter passing ? How are they implemented ? Give examples for each. $2+6+6=14$
- (b) Write the difference between syntax and semantics with suitable examples. 6
4. (a) Write a program in C++ and Java to determine the scope of a variable. Specifically the code must determine whether such variable is visible after the body of the for statement. 8
- (b) What is polymorphism ? Explain the differences between compile time polymorphism and run-time polymorphism. Give suitable examples. $2+10=12$
5. Explain the process of compilation with a neat diagram. 20
6. (a) Library information system is to be developed to provide the following services :
- (i) Opening a member account
 - (ii) Borrowing a book from library
 - (iii) Returning a book to library.

Write a menu-driven program in any object oriented programming language to develop the above library information system. 12

(b) What do you mean by constructors ? Discuss how constructors are evaluated in a class hierarchy in C++. 2+6=8

7. Write short notes on any *four* of the following :

(i) Context free grammar

(ii) Inheritance

(iii) Type checking procedure

(iv) Parse tree

(v) Arrays in Java

(vi) Activation record.

$5 \times 4 = 20$