

T.E. ~~COMP.~~ NOV-DEC-2011  
SEM-II 2008 pattern

[4063] – 346

T.E. (Computer Engg.) (Semester – II) Examination, 2011  
PRINCIPLES OF PROGRAMMING LANGUAGES (New)  
(2008 Pattern)



Time : 3 Hours

Max. Marks : 100

*Instructions :* 1) Answer 3 questions from Section I and 3 questions from Section II.

2) Answers to the two Sections should be written in separate books.

3) Neat diagrams must be drawn wherever necessary.

4) Black figures to the right indicate full marks.

5) Assume suitable data, if necessary.

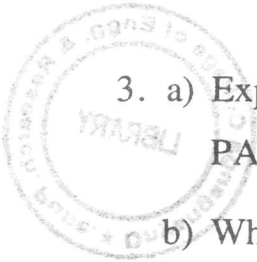
SECTION – I

1. a) What are characteristics of good programming languages ? Explain with example. 8
- b) What do you mean by type checking ? Explain static and dynamic type checking. 4
- c) Explain different parameter passing methods with example. 6

OR

2. a) What are various programming language paradigms ? Explain in brief with suitable examples. 8
- b) Define the term binding. With proper example in particular language explain which binding are done at. 6
  - I) Translation time
  - II) Execution time
- c) Justify the statement "Scope of variable  $\neq$  life time of variable". 4

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- 3. a) Explain block oriented and statement oriented program structure of PASCAL. 8
- b) What is variant record ? How variant record is implemented in PASCAL ? Explain pointers in PASCAL. 8

OR

- 4. a) What are the desirable and undesirable characteristics of procedural programming ? 8
- b) Explain current instruction pointer (CIP) and current Environmental Pointer (CEP). How does it use for recursive programs ? 8
- 5. a) How multiple inheritance is implemented in JAVA ? Explain with example. 4
- b) Explain polymorphism in JAVA with respect to following. 6
  - I) Compile time polymorphism
  - II) Run time polymorphism
- c) Explain with respect to JAVA 6
  - I) An object and object reference
  - II) An object and a class
  - III) Object and methods

OR

- 6. a) What is thread ? How thread is implemented in JAVA ? 8
- b) Compare JAVA applications and JAVA applets. Draw Typical Applet life cycle. 8



SECTION – II

- 7. a) What is Microsoft .NET technology ? What are web services and their importance from business perspective ? List web services protocols supported by industry. 10
- b) What is assembly and delegates in C# ? Explain with suitable example. 8

OR

- 8. a) Explain following with respect to .NET. 8
  - I) JIT
  - II) MSIL
  - III) CTS
  - IV) BCL
- b) Describe the structure of C# program. 4
- c) What is the significance of name space and explain it with respect to C#. 6

- 9. a) What is relation between resolution and unification ? How resolution and unification algorithm works to match the proper pair in database to achieve the goal ? Explain with suitable example. 8
- b) Explain rules, facts and queries in prolog with example. 8

OR

- 10. a) What is backtracking and recursive structure in Prolog ? 6
- b) What is the use of CUT operator with Prolog ? 4
- c) Explain application of logic programming. 6
- 11. a) Explain reduction rules in functional programming language. 8
- b) Write a LISP program for sorting element of array using bubble sort. 8

OR

