

UNIVERSITY OF PUNE
[4363]-256
T. E.(Computer Engineering.)Examination - 2013
PRINCIPLES OF PROGRAMMING LANGUAGES(310249)
(2008 Pattern)

[Total No. of Questions:12]
[Time : 3 Hours]

[Total No. of Printed Pages :5]
[Max. Marks : 100]

Instructions :

- (1) Answer **any three** from each section.
- (2) Answers to the **two sections** should be written in **separate answer-books**.
- (3) Black figures to the right indicate full marks.
- (4) Neat diagrams must be drawn wherever necessary.
- (5) Use of logarithmic tables, slide rule, Mollier charts, electronics pocket calculator is allowed.
- (6) Assume suitable data, if necessary.

SECTION-I

Q1 i) Explain programming language paradigms. State example of each Paradigm. [8]

ii) What is type checking? Explain static and dynamic type checking [8]

OR

Q2 i) What are different parameter passing methods? Explain each in detail with suitable example. [8]

ii) How data types are classified? Explain in brief scalar data type [8]

Q3 i) What are the benefits and limitations of procedural programming Language [8]

ii) Explain the basic elements of PASCAL programming language [8]

OR

Q4 i) What is the use of local global variable in a program? With the help [8]

of sample 'C' program explain the concept.

ii) Explain following statements, used in Pascal [8]

- a) GO TO
- b) NEXT
- c) ASSERT
- d) CASE
- e) RETURN
- f) EXIT

b) Differentiate 'C' and Pascal with respect to variable declaration and Data types

Q5 i) Explain in detail following object oriented programming terms [8]

- a) object and classes
- b) inheritance
- c) polymorphism
- d) abstraction

ii) What do you mean by a Socket? Explain in detail various steps [10] involved in Socket programming for client server communication in JAVA

OR

Q6 i) What is an Applet? Explain the life cycle of an Applet with the help [8] of an example

ii) Write short notes on [10]

- a) JDBC
- b) Multithreading
- c) Exception handling
- d) Interfaces

SECTION-II

Q7 i) Explain the following w.r. to .NET [8]

a) JIT b) MSIL c)CTS d)BCL

ii) What is the base class of .NET framework? What are different languages supported by .NET for development? [8]

OR

Q8 i) What is significance of name space and explain it w.r. to c# [8]

ii) What is assembly and delegates in c#? explain with suitable example. [8]

Q9 For the given set of facts; find is there anything [8]

a) that Mahsa and Mary both like.

Explain with help of operation performed.

likes(Mary, food)

likes(Mary, milk)

likes(Mahsa, milk)

likes(Mahsa, mary)

b) With the help of suitable example, explain CUT operator. Why CUT operator is adopted in PROLOG? [8]

OR

Q10 i) Give the search space for the query married(john) for the given following logical statements.

1. married (John) \Rightarrow wife(Mary, John), husband(John, Mary)

2. married (John) \Rightarrow husband(John, Mary)

3. wife (Mary, John)

4. husband (John, Mary)

a) Give the solution applying Depth first search. [8]

- b) Write and explain typical program structure of PROLOG [8]
- Q11 i) Write short on [12]
- i) Binding in LISP
 - ii) Selective Evaluation.
 - iii) Outermost Evaluation.
 - iv) Short circuit Evaluation.
- ii) Explain in brief functions for [6]
- i) Reading and writing text files in LISP
 - ii) To find the n^{th} element of the given list in LISP
- OR**
- Q12 i) Whether LISP supports macros and objects definition. Justify with suitable example [6]
- ii) Comment on allocation and deallocation operators in LISP. [6]
- iii) Write a function to find square of the given LIST [6]
- ex. If $L=(1,3,5,7)$ the result is $(1,9,25,49)$

