



[4658] – 166

Seat No.	
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T.E. (IT) (Semester – II) Examination, 2014
PROGRAMMING PARADIGMS
(2008 Pattern)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answers to the **two** sections should be written in **separate** answer books.
2) Answer **any three** questions from **each** Section.
3) Neat diagrams must be drawn **wherever** necessary.
4) Figures to the **right** side indicate full marks.
5) Use of calculator is **allowed**.
6) Assume suitable data if necessary.

SECTION – I

1. a) What is data object ? What is life time of data object ? Explain programmer and system defined data object. 10
b) What is type checking ? What is static and dynamic type checking ? Explain the concepts of type conversions and coercions ? 8
- OR
2. a) State and explain the importance of learning programming languages. 10
b) What is binding and binding names ? What are the different binding times ? 8
3. a) Explain with example the content of code segment and Activation record at run time. 8
b) Compare the programming language 'C' and PASCAL with respect to 8
 - 1) Subprogram declaration
 - 2) Subprogram invocation
 - 3) Variable declaration
 - 4) Control loops
- OR
4. a) What do you mean by activation records ? How this feature is used for implementing recursive function calls ? 8
b) What do you mean by exception ? Explain its use with example. 8
5. a) What is AWT ? Explain Applet life cycle. 8
b) Explain following variables supported by Java with example. 8
 - i) Instance variable
 - ii) Static variable
 - iii) Local variable
 - iv) Parameter variable

OR

P.T.O.



6. a) Explain the concept of inheritance. What are different types of inheritance supported in C++ and Java ? 8
- b) Explain the following concept in Java. 8
- i) Panel ii) Frame iii) Canvas iv) Container

SECTION – II

7. a) Consider the following PROLOG database of cities and respective states 10
- Location (Banglore, Karnataka)
Location (Mumbai, Maharashtra)
Location (Pune, Maharashtra)
Location (Surat, Gujrat)
Location (Hyderabad, AP)
- Answer the following queries
- a) Specify GOAL to list all cities
b) Specify GOAL to find the state of Pune city.
- b) What is declarative programming paradigm ? How it is different than imperative paradigm ? 8

OR

8. a) Write a short note on Lambda calculus. 5
- b) Write the mathematical properties of functional programming language. 5
- c) What is Unification and Resolution ? Why these are important in Logic programming ? 8
9. a) What are the design issues for language support for concurrency ? 8
- b) What is meant by parallel programming ? What are the design principles for parallel programming. 8

OR

10. a) State the different Synchronization mechanisms of parallel programming language. Explain any two. 8
- b) Enlist and explain the eight socket primitives required for network connection. 8
11. a) What are the design principles of windows programming ? 8
- b) Explain design principles data flow programming and note firing schemes used in data flow computation. 8

OR

12. a) Explain various types of data types and data structures supported by LISP. 8
- b) How we can handle synchronization mechanism in parallel programming ? 6
- c) What is the concept of node in Data Flow Programming ? 2