



[4459] – 266

Seat No.	
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**T.E. (Information Technology) (Semester – II) Examination, 2013
(2008 Course)
PROGRAMMING PARADIGMS**

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answer Question 1 or 2, 3 or 4, 5 or 6 from Section – I and Question 7 or 8, 9 or 10, 11 or 12 from Section – II.
2) Answers to the **two** Sections should be written in **separate** answer books.
3) **Neat** diagrams must be drawn **wherever** necessary.
4) Figures to the **right** indicate **full** marks.
5) 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) What are the attributes of a Good programming language ? 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) Define the term referencing environment. Explain local, non local, global and predefined referencing environments with suitable examples. 8

OR

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4. a) What do you mean by activation records ? How this feature is used for implementing recursive function calls ? **6**
- b) Explain the differences between the procedures and functions. **4**
- c) What are the different methods for passing the parameters to the function ? Explain in detail. **6**
5. a) What do you mean by access specifiers? Explain public, private and protected specifiers as given by C++. **6**
- b) Why Java.awt package is required for supporting applet program ? **4**
- c) Explain the concept of inheritance. What are different types of inheritance supported in C++ and Java ? **6**

OR

6. a) Explain following variables supported by Java with example. **8**
- i) Instance variable
 - ii) Static variable
 - iii) Local variable
 - iv) Parameter variable.
- b) Explain the following concepts 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
- 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. 8
- b) Discuss Garbage collection and Dangling references using an example in LISP. 10

OR

- 8. a) Which type of storage management is used in LISP ? Explain any one with example. 10
- b) With suitable example demonstrate merits and demerits of searching methods used in logic programming. 8
- 9. a) What are the design issues for language support for concurrency ? 8
- b) Explain concept of Mapping ? Explain different types of Mapping. 8

OR

- 10. a) Describe the actions of the wait and release operations for semaphores. 8
- b) State the different Synchronization mechanisms of Parallel programming language. Explain any two. 8
- 11. a) What are the design principles of windows programming ? 8
- b) What are the properties of data flow programming languages ? 6
- c) What is the concept of node in Data Flow Programming ? 2

OR

- 12. a) How we can handle synchronization mechanism in parallel programming ? 6
- b) Explain various types of data types and data structures supported by LISP. 8
- c) Explain the concept of links in HTML document. 2