



314450

Seat No.	
----------	--

T.E. (I.T.) (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 do you mean by Dynamic Type checking ? Enlist advantages and disadvantages of dynamic type checking. 8
OR
2. a) Define term 'Binding'. Explain following classes of binding times with suitable example. 10
i) Language implementation time
ii) Translation time
iii) Run time.
b) State the key features of following programming paradigms. 8
i) Procedural
ii) Object oriented
iii) Logic
iv) Functional
3. a) Explain with example the content of code segment and activation record at run time. 8
b) What are the different problems occurred at the time of expression evaluation ? Explain it with suitable example. 8
OR
4. a) Differentiate between subroutines and co-routine. Discuss their implementation. 6
b) Explain with example static and dynamic scope rules. 6
c) What is implicit argument ? Show implicit argument in program. 4

P.T.O.



5. a) What do you mean by applet and further explain life cycle of applet with proper example ? 8
b) Explain the concept of inheritance with respect to Java and C++ in detail. 8

OR

6. a) Explain the concept of multithreading. Explain the same with respect to java with suitable example. 8
b) Explain the following concept in Java. 8
i) Panel
ii) Frame
iii) Canvas
iv) Container

SECTION – II

7. a) What is output of following functional compositions ? 9
i) CDR (CDR '(A B C)))
ii) (CDR (CDR '((A B) BC)))
iii) (CDR (CAR '(A B C) D)))
iv) (CONS (CAR '(A B)) (CDR '(A B)))
v) (Member 'B '(A C D E))
vi) (CONS 4 (CONS 6 (CONS 8 NIL)))
vii) LENGTH (A B C D E))
viii) (nth 2 (CDR (A B C D E)))
ix) (CAR (CDDR (A B C D E)))

- b) What is Unification and Resolution ? Why these are important in logic programming ? 9

OR

8. a) Define following terms with respect to declarative and functional programming. 9
i) Facts, Rules and Queries
ii) Lambda Calculus
iii) Reduction.
b) Explain backtracking in prolog with suitable example. 4
c) What is declarative programming paradigm ? How it is different than imperative paradigm. 5



9. a) What is meant by parallel programming ? What are the design principles for parallel programming ? 8
- b) Explain different synchronization mechanisms of parallel programming language. 8

OR

10. a) Explain message passing and shared address space. 8
- b) What do you mean by granularity ? Compare different level of granularity. 8
11. a) Explain design principles data flow programming and note firing schemes used in data flow computation. 8
- b) Explain design principles of Internet Programming. 8

OR

12. a) Write a short note on : 16
- i) Flynn's classification
 - ii) Parallel compiler
 - iii) Windows programming
 - iv) Design principles of Database Programming.
-