



May- June- 2011

[3963] – 368

T.E. (Information Technology) (Semester – II) Examination, 2011
PROGRAMMING PARADIGMS (New)
(2008 Pattern)

Time : 3 Hours

Max. Marks : 100

SECTION – I

1. a) What is data object ? What is life time of data object ? Explain programmer and system defined data object. 10
- b) Explain the concept of pointer with respect to 6
- i) Specification
 - ii) Implementation
 - iii) Operations performed.

OR

1. a) Define the term “Binding”. With suitable example in particular language explain which bindings are done at 8
- i) Language implementation time
 - ii) Translation time
 - iii) Execution time.
- b) Differentiate between structured and non structured data types. 4
- c) Explain the concept of coercion with example. 4
2. a) Explain with layout activation records for subprograms. 8
- b) Differentiate between subroutines and co-routine. 4
- c) Explain the concepts of exception and exception handler. 4

OR

P.T.O.



2. a) Consider the definition of procedure swap as below :

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Procedure swap (x, y : integer)

Var z : integer

Begin

z := x;

x := y;

Return z;

End f;

Begin

y = f();

End swap;

Describe the effect of the procedure call swap (I, A[i]) under each of the following parameter passing methods :

- | | |
|---------------------------|-----------------------|
| i) Call-By-Value | ii) Call-by-reference |
| iii) Call-by-value result | iv) Macro expansion |

- b) What are co-routines ? Discuss their implementation.

6

3. a) Explain following variables supported by Java with example.

8

- | | |
|----------------------|-------------------------|
| i) Instance variable | ii) Static variable |
| iii) Local variable | iv) Parameter variable. |

- b) Differentiate between concept of overriding and overloading with example.

5

- c) Differentiate between concept of static variable and instance variable with example.

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OR

3. a) Compare Java application versus Java applets. Can applets communicate with each other ?

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- b) Explain the concept of inheritance with respect to Java and C++ in detail.

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- c) Differentiate between abstract class and interface in Java.

2



SECTION – II

4. a) What is the difference between a window and a frame in Java ? 4
b) Explain any 3 types of listeners in Java. 6
c) Differentiate between Java swing and Java AWT. 6

OR

4. a) Explain the following concepts in Java 8
i) Panel ii) Frame
iii) Canvas iv) Container
b) What is meant by controls and explain different types of controls ? 8
5. a) What is declarative programming paradigm ? How it is different than imperative paradigm ? 6
b) Enlist the applications of logic programming. 4
c) Why prolog or LISP are used for AI applications ? 2
d) What is cuts in prolog ? How does it used in program ? 4

OR

5. a) Explain rules, facts and queries in Prolog with example. 6
b) Differentiate between unification and backtracking. 6
c) Explain recursive structure in PROLOG with example. 4
6. a) What are the applications of functional languages ? 4
b) What is meant by parallel programming ? What are the design principles for parallel programming. 8
c) What is the concept of node in Data Flow Programming ? 2
d) Enlist benefits and limitations of Java sockets. 4

OR

6. a) What is the difference between TCP and UDP ? 4
b) How we can handle synchronisation mechanism in parallel programming ? 6
c) Explain various types of data types and data structures supported by LISP. 8