



[4459] – 256

Seat No.	
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T.E. (Comp. Engg.) Examination 2013
PRINCIPLES OF PROGRAMMING LANGUAGES

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answers to the **two** Sections should be written in **separate** books.
2) **Neat** diagrams must be drawn **wherever** necessary.
3) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is **allowed**.
4) Assume **suitable** data, if necessary.

SECTION – I

1. a) What are the characteristics of good programming languages ? Explain with suitable example. 8
1. b) Explain different issues about the constants and their initialization with respect to programming language. 6
1. c) Explain following term with suitable examples
- i) Aliasing
 - ii) Dereferencing. 4
- OR
2. a) What are various programming language paradigms ? Explain in brief with suitable examples. 8
2. b) What is type checking ? Explain its types. 6
2. c) What is the difference between scope and lifetime of data object ? 4

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3. a) What are design principles for procedural programming specification ? 6
3. b) Explain the difference between C and Pascal. 6
3. c) Write general characteristics of subprogram ? 4
- OR
4. a) Explain Block oriented and statement oriented structure programming ? 4
4. b) What do you mean by activation records ? How this feature is used for implementing recursive function calls ? 6
4. c) Explain execution steps for imperative programming ? 4
5. a) Explain features and application of the following kinds of Java program. 6
- i) console application
 - ii) applet.
5. b) What are the benefits of object oriented programming language ? Compare it with procedural programming language. 6
5. c) Explain with respect to Java. 4
- i) An object and object reference
 - ii) Object and a method.
- OR
6. a) Explain various pre-defined exception classes in JAVA. Explain with suitable examples. 6
6. b) Describe following kinds of variables supported by JAVA. 6
- 1) Instance variable
 - 2) Static variable
 - 3) Local variable
 - 4) Parameter variable.
6. c) What is package ? List and explain in short standard Java Packages. 4



SECTION – II

7. a) Differentiate between : 8
- 1) Constructor and static initializers
 - 2) Checked and runtime exceptions
 - 3) Web server and application server
 - 4) Authorization and authentication
- b) What is meant by 'Applet' ? Explain the life cycle of Applet with proper example. Why Java.awt package is required for supporting Applet program ? 6
- c) Explain assemblies and modules of .NET framework. 4
- OR
8. a) List and explain different functions supported by C# for delegation and event handlers. 10
- b) What do you mean by framework ? Explain the role of the following w.r. to .NET framework
- i) CTS
 - ii) Web forms
 - iii) CLR
 - iv) Win forms.
9. a) With suitable example, give the classification of first order predicate calculus. 8
- b) What are the control strategy statements in logic programming systems ? 8
- OR
10. a) What are the search strategies in logic programming systems ? Explain with suitable example. 8
- b) What is expert system ? 4
- c) What are the deficiencies in PROLOG ? 4

