B. Tech. (Sem. IV) (Main) Examination, June/July - 2013
Computer Engg. & I.T.
4IT2 Principles of Programming Languages

Time : **3** Hours]

[Total Marks : **80**
[Min. Passing Marks : **24**

*Attempt any **five questions**, selecting **one question** from **each unit**. All questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*
Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1._____Nil_____   2._____Nil_____

UNIT - I

1   What is binding ? Classify various bindings based on binding time ? Give examples of various bindings and binding time for the statement :

int a ;
a = a-1;

16

OR

1   (a)   What are the attributes of a good programming language ?

8

(b)   Why we need to study different kinds of programming languages ?

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UNIT - II

2   (a)   What do you mean by elementary data types ? Give spefications of any two elementary data types.

8

(b) What do you mean by structured data types ? Give speficications of any two structured data types.

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OR

2 (a) Distinguish between static type checking and dynamic type checking.

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(b) What do you mean by type equivalence and type conversion ? Explain with suitable exmaples.

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UNIT - III

3 (a) Differentiate between simple and recursive subprograms.

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(b) Differentiate between subprogram definition and activation.

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OR

3 What do you mean by structured sequence control ? Also discuss the problems in structured sequence control.

16

UNIT - IV

4 (a) What is the role of parameter passing in subprogram invocation ? Explain the difference between call by value and call by referance.

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(b) What do you mean by static and dynamic scope of an indentifier ?

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OR

4 (a) What do you mean by exception handling. Explain difference between exception and compilation error.

8

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(b) Explain the associativity and precedance of operation with suitable example.

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UNIT - V

5. (a) Describe the storage management schemes for fixed size and variable size elements.

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(b) Differentiate between static and stack based storage management.

8

OR

5. Explain the following with suitable examples :
   (i) Abstract data type
   (ii) Encapsulation
   (iii) Information hiding
   (iv) Garbage collection.

16