

**4E2916**

Roll No. : \_\_\_\_\_

Total Printed Pages : **3****4E2916**

**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 ?  
8

**UNIT - II**

- 2 (a) What do you mean by elementary data types ? Give specifications of any two elementary data types.  
8

4E2916]



1

[Contd...

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

8

OR

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

8

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

8

## UNIT - III

- 3 (a) Differentiate between simple and recursive subprograms.

8

- (b) Differentiate between subprogram definition and activation.

8

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 reference.

8

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

8

OR

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

8



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

8

### UNIT - V

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

8

- (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

