



C14-IT-503

4646

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2017

DIT—FIFTH SEMESTER EXAMINATION

PRINCIPLES OF PROGRAMMING LANGUAGES

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Write any three object-oriented language features.
2. List the programming environments.
3. What are meant by syntax and semantics?
4. Write BNF notation (a) for loop and (b) if-else condition.
5. Write the uses of type checking.
6. Define named constants.
7. Write arithmetic expressions with examples.
8. Write about simple assignment statement.
9. Define scope and lifetime of a variable.
10. Write about overloaded sub-programs.

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PART—B

10×5=50

- Instructions** : (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11.** Explain about language evaluation criteria and the characteristics that effect them.
- 12.** (a) Explain the basic concept of denotational semantics.
(b) Define attribute grammar. What is the primary use of attribute grammars?
- 13.** Define left most derivation. Prove that the following grammar is ambiguous :

```
<program>    begin <stmt_list> end
<stmt_list>  <stmt>
              |<stmt>; <stmt_list>
<stmt>      <var>  <expression>
<var>       A|B|C
<expression> <var> + <var>
              |<var> - <var>
              |<var>
```

- 14.** Explain the design issues of pointers.
- 15.** Define control structure. Explain the following control structures :
(a) Selection
(b) Iteration
- 16.** Explain the short circuit evaluation mixed mode assignment.
- 17.** Explain about procedures and functions in subprograms.
- 18.** Explain about coroutines.
