Code: 9A05501

R09

B.Tech III Year I Semester (R09) Supplementary Examinations June 2017

PRINCIPLES OF PROGRAMMING LANGUAGES

(Common to CSE and ECC)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) What is a script? Explain different scripting languages.
(b) Describe characteristics that contribute to the readability of a programming language.

2 (a) Define CFG. State whether CFG is a language generator or recognizer.
(b) What is a parse tree? Explain with an example.
(c) What is an assertion? Explain with an example.

3 (a) Explain about named constants and variable initialization.
(b) Explain the concepts of type checking and type compatibility in detail.

4 (a) Explain Relational and Boolean expressions with examples.
(b) Explain short circuit evaluation of expressions.

5 (a) Explain about generic and overloaded functions.
(b) What are co routines? In what way co-routines different from conventional subprograms?

6 Explain in detail abstract data types in C++ with examples.

7 (a) What are different classes of exceptions in Java?
(b) Explain with suitable example, finally clause in Java.

8 (a) What is a package? Explain them with respect to python language.
(b) Discuss in detail about the various data types and structures that are present in LISP.

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Code No. 2179

FACULTY OF ENGINEERING

B.E. 3/4 (CSE) II Semester (Suppl.) Examination, December 2012

Subject: Principles of Programming Languages

Time: 3 Hours **Max.Marks: 75**

Note : Answer all questions from Part A. Answer any Five questions from Part B.

PART – A (25 Marks)

1. Write any four important uses of programming languages. (2)
2. Write the differences between lexical syntax and concrete syntax of the language. (3)
3. List the design principles of imperative languages. (3)
4. Write the differences between array and enumerated data types in imperative languages? (2)
5. Distinguish between dangling pointers and memory leakage. (3)
6. List the benefits of modular development approach. (2)
7. Write the uses of constructor and destructors in OOP. (2)
8. Abbreviate the functions sew, pile of the language little quilt. (3)
9. Give an example for fact and rules in logic programming language. (3)
10. What are the uses of interrupt and time sharing systems? (2)

PART – B (50 Marks)

11. Explain any two language implementation techniques for bridging the gap between high and low level languages, with neat figures, and their advantages and disadvantages. (10)

12. Explain the BNF rules for statements, using the pascal syntax. (10)

13. Explain objects in small talk, including its uses, implementation considerations and limitations. (10)

14. Explain the various approaches for expression evaluation in functional programming language. (10)

15. (a) Explain operations and linear functions on lists. (5)
    (b) Write about cuts in prolog. (5)

16. (a) What is shared data problem? Explain you idea for solving shared data problem. (5)
    (b) Explain about concurrency in Ada. (5)

17. Write about:
    (a) syntactic ambiguity (4)

(b) Parameter passing methods. (3)
(c) Information hiding. (3)

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Code No. 2152 / O

FACULTY OF ENGINEERING

B.E. 3/4 (CSE) II Semester (Old) Examination, April / May 2013

Subject: Principles of Programming Languages

Time: 3 Hours **Max.Marks: 75**

Note : Answer all questions from Part A. Answer any Five questions from Part B.

PART – A (25 Marks)

1. Write two differences between compiler and interpreter. (2)
2. Define context-free grammar. (2)
3. Convert the infix expression into other notations (a+b)∗(d+e) / (f+g). (3)
4. Write two advantages of activation records. (3)
5. What is meant by static and dynamic allocation? (2)
6. Define template. Give example. (2)
7. Write three features of object-oriented programming languages. (3)
8. Write three applications of functional programming. (3)
9. Write two differences between logic programming and concurrent programming. (2)
10. Define data structures in prolog. (3)

PART – B (50 Marks)

11.(a) Discuss features of programming language and its importance. (5)
(b) Draw the syntax tree for a+b∗c/d + e-f. (5)

12.(a) Distinguish between data types – arrays and records. (5)
(b) What is call-by-value and call-by-reference? Give example. (5)

13.(a) Explain public and private inheritance. (5)
(b) Write the implementation of objects in small talk. (5)

14.(a) discuss the various approaches to evaluate the expressions. (5)
(b) Write the procedure for exceptions in functional programming languages. (5)

15.(a) What are the various parallelism mechanisms introduced in Ada programming language. (5)
(b) Define shared memory, shared variables and shared data and the access mechanisms in Ada. (5)

16.(a) Write about the loop invariant, loop variables with examples. (5)
(b) Write the procedure to implement dictionaries using lists. (5)

17. Write short notes on: (10)
(a) Pointers

(b) Polymorphism.

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Code No. 2394 / N

FACULTY OF ENGINEERING

B.E. 3/4 (CSE) II – Semester (New) (Main) Examination, April / May 2013

Subject : Principles of Programming Languages

Time : 3 hours **Max. Marks : 75**

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Draw the syntax tree for ((-y -6 *3)/z)+2. 3
2. What are regular expressions? 2
3. What is an alias? 2
4. What is type checking? 2
5. Define dynamic binding. 3
6. Write on events. 3
7. Define encapsulation. 2
8. What is inspection? 2
9. What are semaphores? 3
10. Write on dynamic compilation. 3

PART – B (50 Marks)

11. Explain phases of compilation with diagram. 10

12.a) Explain stack-based storage allocation mechanism. 5

b) Explain iteration control structure. 5

13.a) Write on genetic subroutines. 5

b) Explain call by reference with example. 5

14. Explain about arrays with examples in different languages. 10

15.a) What are recursive types? 5

b) Explain concurrency mechanism in Ada. 5

16. Explain the concept of inheritance. 10

17.a) Explain logic programming language features. 5

b) Write on scheme programming language. 5

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Code No. : 5246/M

FACULTY OF ENGINEERING
B.E. 3/4 (CSE) II Semester (Main) Examination, May/June 2012
PRINCIPLES OF PROGRAMMING LANGUAGES

Time: 3 Hours] [Max. Marks : 75

***Note** : Answer **all** questions from Part **A**, Answer **any five** questions from Part **B**.*

PART – A **(25 Marks)**

1. Define content free grammar. Give example. **3**
2. Define Records, Unions, Pointers. **3**
3. Write object oriented language features. **3**
4. Write implicit and explicit data types. **3**
5. Write the features of Ada-language. **3**
6. Define syntax, semantic and lexical syntax. **2**
7. Write the structure of various control flows. **2**
8. Define class, objects, public, private with example. **2**
9. Illustrate call-by-value and call-by reference. **2**
10. Convert the expression x + y * * 2 + z. **2**

Code No. : 5246/M

PART – B (50 Marks)

11. a) Explain the features of High-level programming languages.

    b) Draw the syntax tree for (a + b – c * d + e/f).

12. a) Describe loop invariant with example.

    b) Explain call by value-result with example.

13. a) Define a class stack and explain PUSH, POP operations.

    b) Explain the usage of activation records.

14. a) Write features of functional programming.

    b) Write short notes on Exception handling.

15. Explain the logic programming features and data structures with syntax.

16. Explain the parallelism in hardware and how parallelism is implemented in Ada.

17. Write short notes on :

    a) Data structures in C++.

    b) Smalltalk.
