

FACULTY OF ENGINEERING

B.E (III/IV Year) (CSE) II Semester (Main) Examination, June 2010

PRINCIPLES OF PROGRAMMING LANGUAGES

Time : 3 Hours]

[Max. Marks : 75

Answer **all** questions from Part A.
Answer any **five** questions from Part B.

Part A – (25 Marks)

1. Compare between compilation and interpretation. 2
2. Convert the given expression into prefix and postfix notation. 3

$$(a + b) * d + (e - f) / k$$
3. Write the rule for conditional statements. 2
4. Illustrate with example for call-by-value result. 3
5. Define public, private and protected members. 2
6. Define constructor and destructor? 3
7. Why association lists are used for implementing dictionaries and environments? 3
8. Define unification? 2
9. What is occurs - check problem? 3
10. Using append relations, formulate queries to determine the third element of a list? 2

Part B – (50 Marks)

11. a) Write short notes on imperative programming and functional programming? 5
 b) Draw the syntax tree for $(b / 2 + \text{sqrt}((b / 2) * (b / 2) - a * c)) / a$.
12. a) Describe how to construct an EBNF grammar from a syntax tree.
 b) Write the syntax of case statement? Write the rules for case statement?
13. a) Describe the class of queue using the description of the small talk class stack?
 b) An address book contains cards with names, addresses and telephone numbers. Design classes corresponding to the address book and cards.

[P.T.O

14. Write about the different approaches in expression evaluation. 10
15. Explain how concurrency is handled in Ada-language.
16. a) Define pointer? What are the operations that can perform on pointer and give examples for dangling pointers.
- b) Define activation record? Explain how in sequential language control flow takes place?
17. Write short notes on :
- a) Templates
 - b) Inheritance
 - c) Data structures in prolog.
-

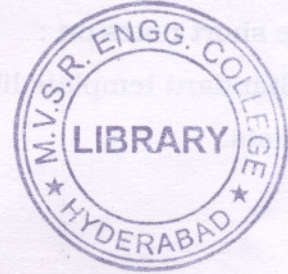
FACULTY OF ENGINEERING

B.E. III/IV Year (CSE) II Semester (Main) Examination, May/June, 2011

PRINCIPLES OF PROGRAMMING LANGUAGES

Time : 3 Hours]

[Max. Marks : 75

Answer **all** questions from Part A.Answer any **five** questions from Part B.**Part A** – (Marks : 25)

1. What is amliguous and unamliguous grammars? Give examples. 3
2. Give example for arrays, records with syntax. 3
3. Define Standard template with example. 3
4. Define public and private inheritance. 3
5. Define function definition, function declaration. 3
6. What is funciton prototype? 2
7. Define concurrency and parallelism. 2
8. Give example for nested loop. 2
9. Distinguish between scope, life time of a variables. 2
10. Differentiate between constructor and destructor. 2

Part B – (Marks : 50)

11. (a) Draw the syntax-tree for $(b + a ** 2 - (b/2)) - a * c$.
(b) Explain the context free grammar with example.
12. (a) Write the syntax of loop structures of C++ language.
(b) Write the features of imperative languages.
13. (a) Explain the applications of smalltalk.
(b) Write an inline function to compute the power of x value. where $x > 1$.

14. (a) What are the various approaches in expression evaluation.
(b) Define pointer ; activation records with examples.
15. Compare and contrast the features of logical programming functional programming.
16. Explain the concurrency techniques in Ada-language.
17. Write short notes on :
 - (a) Standard template libraries.
 - (b) Lists.



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



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.

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 |

FACULTY OF ENGINEERING**B.E. 3/4 (CSE) II – Semester (Main) Examination, June 2014****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 | What is the difference between machine language and assembly language? | 3 |
| 2 | What are three principal storage allocation mechanisms? | 3 |
| 3 | Explain type equivalence and type compatibility? | 3 |
| 4 | What are Inner classes? Give example in Java. | 3 |
| 5 | Give overview of scheme. | 3 |
| 6 | What is a regular expression? | 2 |
| 7 | Explain Non-determinacy. | 2 |
| 8 | Explain call-by-value and call-by-reference. | 2 |
| 9 | Explain Busy-wait synchronization. | 2 |
| 10 | What is late binding? | 2 |

PART – B (50 Marks)

- | | | |
|----|--|--------|
| 11 | Write short notes on :
a) Sequencing b) Selection c) Iteration | 10 |
| 12 | Explain briefly :
a) Context-free grammar b) Parsing | 10 |
| 13 | a) What are “with” statements? Give an example.
b) Explain equality testing and assignment. | 5
5 |
| 14 | a) Explain dynamic method binding in OOP languages.
b) What is multiple inheritance? | 5
5 |
| 15 | Explain the following :
a) Late Binding time b) Higher-order functions c) Execution order | 10 |
| 16 | a) Explain Coroutines.
b) Explain sequential and thread based handlers events. | 5
5 |
| 17 | a) Why to study programming languages?
b) Explain the concept of binding in functional and imperative languages. | 5
5 |
