(a) Compare C++ and Java.

(b) What are the various phase of compilation?

6. Write short notes on:

(a) Rule based language

(b) Interpreter and compiler

(c) Coroutines

(d) T-diagram

CS-3405

B. Tech. [CS] (Semester-V) Examination–2017

Principle of Prog. Language

Time: Three Hours

Maximum Marks: **100**

Note: Attempt questions from all the sections.

Section-A

(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 4 marks. (4x10=40)

1. Write True/False:

(a) Early binding provide us flexibility

(b) ML & HTML are example of late binding

2. (a) Properties of virtual computer included:

(A) Interactive (B) Immersive

(C) None (D) Both (A) & (B)

(b) Double data type is based on:

(A) Hardware (B) Software

(C) Both (A) & (B) (D) None

3. Explain about imperative language and applicative language.

4. Why we should study about programming language?

5. Explain about derivation tree with example.

6. What are various types of structure? Give suitable example.

7. What is the purpose of declaration?

8. Why 'C' is also known as middle level language? Explain.

9. Explain about vectors.

10. What is dangling pointer?

11. What is implicit and explicit sequence control?

12. What do you mean by unconditional sequence control statements?

13. What is inline function? Give example.

14. What is CIP and CEP?

15. Explain about stack based or dynamic storage allocation.

Section-B
(Long Answer Type Questions)

Note: Attempt any three questions. Each question carries 20 marks. **(20x3=60)**

1. What do you mean by Activation Record? Explain about recursive activation record.

2. What is Type Checking? Explain in details.

3. (a) What is the difference between stack based and heap based storage management?

   (b) What are the various factors influencing the evolution of programming language?

4. What is the difference between static and dynamic scoping? Explain with example.

7. Explain primitive data type with example.

8. Explain array and its uses in programming language.

9. What are co-routines? How they are implemented?

10. Explain exception handling.

11. Explain the concept of type checking.

12. Explain syntactic element of a language.

13. What is batch processing environment? Explain.

14. What are the major difference between imperative and functional programming language?

15. Explain information hiding.

SECTION - B

(Long Answer type questions)

Note : Attempt any three questions. Each question carries 20 marks. 20x3=60

1. What is pointer? Explain the dereferencing and deallocation. Also explain the advantages and disadvantages of pointer.

2. Explain binding and binding time. What are the difference between binding at compile time and binding at run time with example.

3. Explain scheduled sub-programmes. What are the benefits of scheduled sub-program? Write some sub program scheduling techniques.

4. Explain storage management with example. What are the major run time requirement for strong management. How storage representation done?

5. Describe static scoping with example. Explain implicit and explicit sequence control with example.

6. Write short notes on :
   (i) Object Oriented Programming
   (ii) LISP

3. Write about:
   (a) Syntactic ambiguity
   (b) Parameter passing methods
   (c) Information hiding. Explain each of these terms with proper illustration.

4. (a) Explain phases of compilation with diagram.
   (b) Explain stack-based storage allocation mechanism and iteration control structure.

5. (a) Define class stack and explain push and pop operation.
   (b) "Exceptional handling is important in any Programming Language". Justify the statement with proper reasoning.

6. (a) What are the problems arising from dynamic scoping? Explain in detail proper justification.
   (b) Define curried functions through Lamda calculus.

CS-504/3404

B. Tech. [CS] (Semester-V) Exam. 2014

Principles of Programming Languages

Time: Three Hours

Maximum Marks: 100

Note: Attempt questions from all the sections.

Section-A

(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 4 marks. (4x 10=40)

1. Write any four important uses of programming languages with illustration.

2. Write the differences between lexical syntax and concrete syntax of the language.

3. Explain implicit and explicit sequence contr

4. Write the differences between array and enumerated data types in imperative languages.

5. Distinguish between dangling pointers and memory leakage.

6. List the benefits of modular development approach.

7. Write the uses of constructor and destructors in Object Oriented Programming.

8. Write the structure of early and late binding.

9. Give an example for fact and rules in logic programming language.

10. What are the uses of interrupt and time sharing systems?

11. Write three features of object-oriented programming languages with illustration.

12. Write three applications of functional programming.

13. Write two difference between logic programming and concurrent programming.

14. Define data structures in prolog.

15. Explain the phases of translation with block diagram.

Section-B

(Long Answer Type Questions)

Note: Attempt any three questions. Each question carries 20 marks. (20x3=60)

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

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

2. (a) Discuss the various approaches to evaluate the expressions. Write the procedure for exceptions in functional programming languages.

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

3. (a) Discuss static and dynamic scoping with example.

(b) Describe implicit and explicit sequence control with example.

4. (a) Explain referencing environment in detail. What are the difference between local and non-local referencing environment

(b) Explain scheduled sub-programmes and write some subprogram scheduling techniques.

5. (a) Explain stack and heap based storage management in detail.

(b) What are the stages required for translation?

6. (a) What is object oriented programming? Compare the Java and C programming language.

(b) Write short notes on:

(i) Fortran

(iii) LISP

CS-504/3404

B. Tech. (CS) (Semester-V) Exam.-2013

Principles Programming Languages

Time: Three Hours

Maximum Marks: 100

Note: Attempt questions from all the sections.

Section –A

(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 4 marks. (4x10=40)

1. Explain the concept of orthogonality in programming language design.

2. What are the most important properties of a good programming language?

3. Discuss the complete syntax for operation specification. What are major methods for their implementation?

3. Write about:

(a) Syntactic ambiguity

(b) Parameter passing methods

(c) Information hiding. Explain each of these terms with proper illustration.

4. (a) Explain phases of compilation with diagram.

(b) Explain stack-based storage allocation mechanism and iteration control structure.

5. (a) Define class stack and explain push and pop operation.

(b) "Exceptional handling is important in any Programming Language". Justify the statement with proper reasoning.

6. (a) What are the problems arising from dynamic scoping? Explain in detail proper justification.

(b) Define curried functions through Lamda calculus.

CS-504/3404

B. Tech. [CS] (Semester-V) Exam. 2014

Principles of Programming Languages

Time: Three Hours

Maximum Marks: **100**

Note: Attempt questions from all the sections.

Section-A

(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 4 marks. **(4x 10=40)**

1. Write any four important uses of programming languages with illustration.

2. Write the differences between lexical syntax and concrete syntax of the language.

3. Explain implicit and explicit sequence contr

4. Write the differences between array and enumerated data types in imperative languages.

CS–3405

B. Tech. (CS) (Fifth Semester)
EXAMINATION, 2019
PRINCIPLE OF PROG. LANGUAGE

Time : Three Hours

Maximum Marks :100

Note : Attempt questions from both Sections as directed.

Section—A

(Short Answer Type Questions)

Note : Attempt any *ten* questions. Each question carries 4 marks. 10×4=40

1. (a) Double Data type is implemented on the basics of :

   (i) Software

(ii) Hardware

(iii) Both (i) and (ii)

(iv) None of the above

(b) Monolithic block structure is followed by :

(i) Pascal

(ii) COBOL

(iii) C

(iv) None of the above

True/False

2. (a) A Dangling painter can be easily detected.

(b) Late Binding is followed by C Language

3. Why we should study the programming language ? Explain.

4. What is derivation tree ? Explain with suitable diagram.

5. What do you mean by Applicative Programming language ?

6. Explain about Flat Block structure language give example.

7. An object binds with how many properties ? Explain.

8. What is the difference between structure and union ?

9. What are scheduled sub programs ? Give suitable example.

10. What do you mean by type conversion and type coercion ?

11. What do you mean by pointer ? Why do we use them ?

12. What are iterative statements ? Explain do-while.

13. Clearly mention the characteristics of good programming language.

14. What is enumeration data type ? Explain.

15. What is the difference between goto and continue statement in C ?

Section—B

(Long Answer Type Questions)

Note : Attempt any *three* questions. Each question carries 20 marks. 3×20=60

1. (a) What is the purpose of declaration ? Explain.

(b) What are the various factors influencing in evolution of programming language ?

2. What do you mean by Type checking ? Explain in detail.

3. (a) What do you mean by Imperative and Rule based programming languages ? Give example.

(b) What is the difference between Compiler and Interpreter ?

4. What is Activation Record ? Explain it for a recursive function.

5. Write short notes on the following :

(a) Call by value

(b) Break and Continue

(c) Implementation of Integer

(d) Java

6. What do you mean by Memory Management ? What is the difference between stack Based and Heap based Memory Management ?