

Supplementary Examinations, May/June - 2015
PRINCIPLES OF PROGRAMMING LANGUAGE

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions, All Questions carry **Equal** Marks

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1. a) Differentiate between syntax and semantics
b) Explain the parse tree for the sum and average program by using the grammar
 2. a) Explain the dangling reference in detail
b) Explain the overloading concept in Ada with an example
 3. a) Explain about the attribute flow
b) Explain about the syntax tree for simple calculating program
c) Describe the similarities and differences between context-free grammars and tree grammars.
 4. a) Explain about the logically controlled loops in Algol
b) Explain about the assignment operators in C
 5. a) Differentiate between type equivalence and type compatibility
b) Describe about the pointers in FORTRAN 90, Ada, pascal with an example
 6. a) Explain about the subroutines as a parameters in Pascal with an example
b) What is exception? How to handle exceptions in Ada
 7. a) Explain about the virtual and non virtual methods. Also explain the virtual methods in C++ and C#
b) What are the benefits of data abstraction
 8. a) Explain the basic elements of prolog
b) Explain the characteristics of functional programming languages

II B. Tech II Semester Regular Examinations, August -2014
PRINCIPLES OF PROGRAMMING LANGUAGE

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions, All Questions carry **Equal** Marks

1. a) What is the significance of studying programming language?
b) Discuss about Context-free grammar and regular expression? Give the parse tree of a following statement: $A = (B+C) * (D / E)$ (8M+7M)
2. a) Consider the following pseudo code.
Procedure P (A, B: real)
X: real

Procedure Q (B, C: real)

Y: real

Procedure R (A, C: real)

Z: real

... (*)

...

Assuming static scope, what is the referencing environment at the location marked by (*)? b) Define Macro? How to implement the macro? (8M+7M)

3. Explain the following: i) Attribute grammar ii) Action routines (15M)

4. a) What is dangling-else problem? Discuss How it can be handled by the programming language.

b) Describe the characteristics of structured and unstructured control flow. (8M+7M)

5. a) Briefly explain about the Records and the Sets data structures

b) What are primitive and non-primitive data types? Explain. (8M+7M)

6. a) Explain in detailed about the different forms of parameters.

b) Describe how virtual functions can be used to achieve the effect of subroutine closures. (8M+7M)

7. Why OOP is required? Explain about different types of Inheritance. Explain the importance of Inheritance. (15M)

8. a) For What sort application logic programming is useful? Briefly explain.

b) What are existential queries? Briefly explain. (8M+7M)

Regular Examinations, August -2014

PRINCIPLES OF PROGRAMMING LANGUAGE

Time: 3 hours Max. Marks: 75,

Answer any **FIVE** Questions, All Questions carry **Equal** Marks

1. a) Compare the process of Compilation and Interpretation.
b) What is AST? How it helps in design the Programming language? Give AST for expression $A = (B+C) * (D/E)$ (8M+7M)
2. a) Define the terms: i) life time of the variable ii) Scope and extent
b) What is static binding and dynamic binding (8M+7M)
3. What is meant by attributes? Discuss about it. How space can be managed for the attributes?(15M)
4. a) What is recursion? Explain its control flow with suitable example.
b) Explain the different forms of statement level sequence control? (8M+7M)
5. a) What is an activation record? What are its content and uses?
b) Why type checking is required? Give the alternatives for type checking. Explain. (8M+7M)
6. a) Describe the algorithm used to identify an appropriate handler when an exception is raised in a language.
b) Discuss about genetic sub-routines and modules. (8M+7M)
7. With respect to the object oriented programming, briefly explain the following:
i) Class and instance ii) Object iii) Virtual function iv) Inheritance (15M)
8. Summarize Prolog's facilities for database manipulation. Briefly Explain the usage of assert, retract, and clause. (15M)

PRINCIPLES OF PROGRAMMING LANGUAGE

(Com. to CSE, IT), Time: 3 hours Max. Marks: 75,

Answer any **FIVE** Questions, All Questions carry **Equal** Marks

1. a) Draw and explain the parse tree for GCD program
b) Explain the syntax graph and EBNF descriptions of the Ada if statement.
2. a) What is binding time b) What are the rules of Scope
3. a) Explain the Attribute Grammar and also explain about the features of the same b) Distinguish between Synthesized and inherited attributes
4. a) Explain about the tail recursive function with an example
b) Describe the different categories of control flow mechanisms
5. a) Explain the differences between type conversion, type coercion and non converting type casts b) Explain the different types of data types used in C
6. a) Explain about the generic sub routines with an example
b) What is exception. How to handle the exceptions in Java with an example
7. a) Describe the issues of object oriented programming languages
b) Explain the use of :: operator in C++ with an example
8. a) Describe about the search strategies in prolog
b) Explain the features of functional programming languages