Printed Pages: 3 **NCS-503**

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 2012277 **Roll No.** □□□□□□□□□□

B.TECH.

Regular Theory Examination (Odd Sem - V), 2016-17

PRINCIPLES OF PROGRAMMING LANGUAGE

Time : 3 Hours ***Max. Marks : 100***

SECTION - A

1. **Attempt all parts. All parts carry equal marks. Write answer of each part in short.** **(10×2=20)**

   a) Write any four important uses of programming languages.

   b) Compare the weakest precondition of the following assignment a = 2 * (b – 1) – 1 (a > 0).

   c) What are the advantages of inheritance?

   d) Mention the component of referencing environment.

   e) What is an imperative language?

   f) Define encapsulation. With suitable example.

   g) Differentiate between compiler and interpreter.

h) What do you mean by primitive data type?

i) What is a simple list?

j) Define lambda calculus.

SECTION - B

Note : Attempt any five questions from this section.

(5×10=50)

2. What are the various mechanism for storage representation of structured data types? Also explain any two major storage management issues.

3. Describe implementation of simple sub programs.

4. What are the key features supported by object oriented programming languages? Explain with example.

5. Describe sequence control with various examples.

6. Write a recursive program to find the length of a list in LISP.

7. What is Lambda? Discuss briefly. Use β-reductions to simplify the following expression as much as possible ((lambda (x) (x(yx)))z).

SECTION - C

Note: Attempt any 2 questions from this section. (2×15=30)

8. Give the complete translation structure of the following statement :
   Result = start * 10 + phase * 20.

OR

Mention some multi-paradigm languages. How they are different from other languages? Explain the features and structures of multi-paradigm language.

9. Discuss about the fundamentals of functional programming languages.

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