MCA-Dual Degree
(SEM-V) THEORY EXAMINATION 2018-19
PRINCIPLES OF PROGRAMMING LANGUAGES

Time: 3 Hours   *Total Marks: 100*

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

1. **Attempt *all* questions in brief.**   **2 x10 = 20**
    a. What constitutes a programming environment?
    b. What is procedure activation?
    c. How can user-defined operator overloading harm the readability of a program?
    d. What do you mean by a general purpose language? Is C a general purpose language?
    e. Classify the scope of variable.
    f. What does lambda expression specify
    g. Explain the functionality of Programming concept.
    h. Explain the advantages of short-circuit?
    i. Differentiate compiler and translator.
    j. Explain encapsulation.

SECTION B

2. **Attempt any *three* of the following:**   **10 x 3 = 30**
    a. Explain Logically Controlled Loop with suitable examples.
    b. Which of the programming language uses nested-scope rule? Explain the concept of nested-scope rule with an example.
    c. Explain the compilation steps in PPL
    d. Explain the static and dynamic scope with example.
    e. What is inheritance? Explain the types also.

SECTION C

3. **Attempt any *two* parts of the following:**   **5 x 2 = 10**
    (a) Differentiate procedural & OOP paradigms.
    (b) Write a short note on typing & sub typing.
    (c) What are the formal translation models?

4. **Attempt any *one* part of the following:**   **10 x 1 = 10**
    (a) How concurrent programming is helpful? Explain.
    (b) What is the role of programming languages? How these helpful for development.

5. **Attempt any *one* part of the following:**   **10 x 1= 10**
    (a) What are the potential benefits of studying programming language concepts?
    (b) List the design issues of concurrency? Explain the briefly.

6. **Attempt any *two* parts of the following:**   **5 x 2 = 10**
    (a) Can a user access a non-local object in case of subroutines? Give valid reasons.
    (b) Explain the Grouping of Data and Operations.
    (c) Give suitable example for recursive program.

7. **Attempt any *one* part of the following:**   **10 x 1 = 10**
    (a) Discuss precedence and associativity rules of different programming languages.
    (b) What are the three general methods of implementing a programming language?