Course Code: MCT542

First Semester Master in Computer Application Examination

PRINCIPLES OF PROGRAMMING LANGUAGES

Time: 2 Hours] [Max. Marks: 40

Instructions to Candidates:

1. All questions carry equal marks.
2. Illustrate your answers with the help of neat sketches wherever necessary.
3. Answers should be descriptive and must cover relevant points.

Question		Description of Question	Marks	CO
1	**(a)**	How is the cost of compilers for a given language related to the design of that language?	3	CO1
	(b)	What are the three fundamental features of an object-oriented programming language?	3	CO1
2	**(a)**	Define the following terms: i. Language design time ii. Language implementation time iii. Program writing time	3	CO2
	(b)	How the garbage collection is used in programming language?	3	CO2
3	**(a)**	Explain the notion of definite assignment in Java and C# with example.	3	CO2
	(b)	Give an example in which a midtest loop results in more elegant code than does a pretest or post-test loop.	4	CO3
4	**(a)**	What advantages do Java and C# reference type variables have over the pointers in other languages?	4	CO4
	(b)	Discuss the differences among the denotational, constructive, and abstraction based views of types.	4	CO4
	(c)	What array initialization feature is available in Ada that is not available in other common imperative languages?	3	CO4
5	**(a)**	How does an in-line subroutine differ from a macro?	3	CO3

	(b)	Describe the algorithm used to identify an appropriate handler when an exception is raised in a language like Ada or C++.	4	CO3
6	**(a)**	Explain three important benefits of abstraction.	3	CO1
	(b)	Explain the distinctions among private, protected, and public class members in C++.	4	CO2