



KERALA AGRICULTURAL UNIVERSITY
B.Tech. (Food Engg. & Tech.) 2019 Admission

III Semester Final Examination-February 2021

Basc.2107

Computer Programming (1+1)

Marks: 50
Time: 2 hours

I Define the Following (10x1=10)

1. Define object of a class.
2. What is a scope resolution operator?
3. The assignment statement $a=-b$; can also be written as:
a. $a = b-1$; b. $a = a-b$; c. $a = a-(-b)$; d. $a = b-a$;
4. What are components of a class?
5. Which of the following is the characteristic of an abstract class?
a. It cannot be used as a base class b. It cannot be instantiated.
c. It cannot be derived d. It cannot be used as a friend class
6. Define copy constructor.
7. What are all the operators that cannot be overloaded?
8. What is the main purpose of overloading operators?
9. Write all valid identifiers in C++ from the set {a, a1, 1a, _a, aa}
10. Define friend function.

II Write Short notes on ANY FIVE of the following (5x2=10)

- 1 Differentiate between macro and inline functions.
- 2 What are virtual functions? Write an example.
- 3 How is the keyword struct different from class in C++?
- 4 Define inheritance. Mention its types.
- 5 List basic concepts of OOP (Object Oriented Programming).
- 6 List characteristics of a constructor.
- 7 What is a dangling pointer?

III Answer ANY FIVE of the following. (5x4=20)

- 1 What are properties of static member functions? Give example of a static member function.
- 2 What are different parameter passing techniques? What is the main advantage of passing arguments by reference?
- 3 Explain parameterized constructors with example.
- 4 What are nested classes? How are they defined in a C++ program? What is their use?
- 5 Write a C++ program to concatenate two strings using operator overloading.
- 6 What are characteristics of static member variables?
- 7 List merits and demerits of single inheritance over multiple inheritance.

IV Write an essay on any ONE of the following (1x10=10)

- 1 Imagine a publishing company that markets both books and audio cassette versions of its work. Create a class publication that stores the title (a string) and price (type float) of a publication. From this class derive two classes: book with which adds a page count (type int) and tape which adds a playing time in minutes (type float). Each of these three classes should have a `getData()` function to get its data from the user at the keyboard and

a putData() function to display its data. Write a main() program to test the book and tape classes by creating instances of them, asking the user to fill in data with getData() and then displaying the data with putData().

- 2 Elaborate on C++ stream classes, unformatted I/O operations, and formatted console I/O operations.
