Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - ARREAR EXAMINATIONS NOV/DEC 2023

B.E. Geoinformatics, Semester IV

GI5403 – OBJECT ORIENTED PROGRAMMING USING C++

(Regulation 2019)

Time: 3hrs Max.Marks: 100

CO 1	Understand the basic concepts of Object oriented programming
CO 2	Implement OOPS concept using C++ Language
CO 3	Understand the concept of Inheritance and Polymorphism
CO 4	Handle the I/O files
CO 5	Effectively use template and exception handling

BL – Bloom's Taxonomy Levels

(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analysing, L5 - Evaluating, L6 - Creating)

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Explain how Polymorphism is achieved at compile time.	2	1	L1
2	Infer 'object identify' and 'object modeling'.	2	1	L2
3	What are 'Keywords' and 'Identifiers' in C++?	2	2	L1
4	Summarize about 'manipulators' and 'control statements'.	2	2	L2
5	Describe 'member functions'.	2	3	L1
6	Outline the different visibility modes supported by C++.	2	3	L2
7	Explain the input and output streams in C++.	2	4	L2
8	Demonstrate a C++ program to count the number of words in a text file.	2	4	L2
9	"A static member function is similar to a friend function" – Describe and Comment.	2	5	L1
10	Summarize the relation between the member function and the class.	2	5	L2

PART- B (5 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a) (i)	Elaborate in detail the various steps involved in Object Oriented Design.	8	1	L6
(ii)	Compile about ADO Data Control and Data Bound Control in accessing databases.	5		
	OR			
11 (b) (i)	Elaborate on how data and functions are shared in Object Oriented Programming and list the characteristics.	8	1	L6

(ii)	Construct a routine to explain the inheritance and polymorphism.	**5**		
12 (a) (i)	Compare the different datatypes used in C++ and explain their application.	**8**	2	L5
(ii)	Interpret and explain the manipulators used in C++.	**5**		
	OR			
12 (b) (i)	Evaluate using C++ program with a function using reference variables as arguments to swap the values of a pair of integers.	**8**	2	L5
(ii)	Evaluate using a C++ program using function overloading to estimate the volume of a cube (s^3), cylinder ($3.14519r^2h$) and rectangular box (lbh).	**5**		
13 (a) (i)	Compare and explain the various types of Inheritance with an example.	**8**	3	L4
(ii)	Infer inheritance as applied to object-oriented programs.	**5**		
	OR			
13 (b) (i)	Infer the derived classes and make a program to explain its application in RS datasets.	**8**	3	L4
(ii)	Analyse using a C++ program to demonstrate Constructor and Destructor concepts.	**5**		
14 (a) (i)	Compile and discuss about ANSI string class, its member functions, non-member functions and operators	**13**	4	L3
	OR			
14 (b) (i)	Compile and discuss in detail about C++ Namespaces including STD Namespace.	**13**	4	L3
15 (a) (i)	Simplify Exception Handling in C++. Explain with Try, Catch, and Throw examples.	**13**	5	L4
	OR			
15 (b) (i)	Analyse when function templates are used. Examine how the quicksort algorithm is implemented with a function template and also infer about overloading function templates.	**13**	5	L4

PART- C (1 x 15 = 15 Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16. (i)	What do you mean by overloading of a function and when do we apply this concept?	**7**	2	L3
(ii)	Infer with examples for 'Call by Value' and 'Call by Reference' in C++.	**8**	2	L4