OOPS USING C++ Unit wise Question Bank

UNIT-1

Object-Oriented Thinking and C++ Basics

S. No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		What is an object and class?	BT2	CO1	PO1
2		Explain the structure of C++ Program with an example.	BT1	CO1	PO1
3		Define Operators, Evaluation of expressions	BT2	CO1	PO1
4		Define abstraction, encapsulation with syntax	BT2	CO1	PO1
5		Define inheritance and polymorphism.	BT3	CO1	PO2
6		What is recursion? Explain recursive with an example	BT3	CO1	PO2
7		Define pointer with the example.	BT2	CO1	PO2
8		Define inline function with example.	BT2	CO1	PO1
9		What are the disadvantages of procedural programming	BT2	CO1	PO2
10		Define Preprocessor directives with example.	BT3	CO1	PO1
Part – B (Long Answer Questions)					
11	a)	Describe the object oriented programming features of C++?	BT3	CO1	PO2
	b)	Write a C++ program to generate Fibonacci series using recursion with member function	BT2	CO1	PO2
12	a)	Explain types of program flow statements in C++?	BT4	CO1	PO2
	b)	Define inheritance and explain it with example.	BT3	CO1	PO3
13	a)	Write a program to exchange values between two classes using friend classes	BT3	CO1	PO2
	b)	Distinguish between call by value and call by address with an example	BT2	CO1	PO2
14	a)	Differentiate between Structures and class? Give an example of each?	BT3	CO1	PO2
	b)	Explain the different types of data types used in C++ with example.	BT3	CO1	PO3
15	a)	What is Operator overloading? Write a C++ program illustrating overloading NEW and DELETE operators?	BT2	CO1	PO2
	b)	Define array and explain about types of arrays in C++	BT3	CO1	PO2

		with example.			
16	**a)**	**Write a C++ program using Switch case.**	**BT2**	**CO1**	**PO2**
	b)	**Explain about the various types of access specifiers are used in C++**	**BT2**	**CO1**	**PO2**

UNIT-2

C++ Classes and Data Abstraction

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		**How to create classes and objects in C++ with example.**	**BT2**	**CO2**	**PO2**
2		**Difference between static data member and static member functions.**	**BT1**	**CO2**	**PO1**
3		**Explain about static keyword?**	**BT3**	**CO2**	**PO2**
4		**Write the structure of class**	**BT3**	**CO2**	**PO2**
5		**Explain the concept of Data abstraction.**	**BT2**	**CO2**	**PO3**
6		**What is copy constructor, explain with example**	**BT2**	**CO2**	**PO1**
7		**Explain Constructor with syntax.**	**BT1**	**CO2**	**PO1**
8		**What are destructors? When they are called? What is their utility?**	**BT3**	**CO2**	**PO2**
9		**What is mean by implicit and explicit constructors**	**BT3**	**CO2**	**PO2**
10		**Define constant function.**	**BT2**	**CO2**	**PO3**
Part – B (Long Answer Questions)					
11	**a)**	**What is a Constructor? How many types of constructors are there?**	**BT3**	**CO2**	**PO2**
	b)	**Write a C++ program illustrating Queue data structure? Ensure your program contains special member functions like constructors, copy constructors and Destructors to create and destroy Queue objects?**	**BT3**	**CO2**	**PO3**
12	**a)**	**Write a C++ program to calculate simple interest and compound interest.**	**BT3**	**CO2**	**PO2**
	b)	**Explain the concept of Data abstraction with example**	**BT3**	**CO2**	**PO2**
13	**a)**	**Write a C++ program to display names, rollnos and grades of 3 students who have appeared in the examination. Declare the class of name, rollnos and grade. Create an array of class objects. Read and display**	**BT2**	**CO2**	**PO2**

		the contents of the array			
	b)	Explain Constant member functions with example	BT3	CO2	PO3
14	a)	Explain Static class members with example	BT3	CO2	PO2
	b)	Write a C++ program to implement static keyword and explain	BT2	CO2	PO1
15	a)	What is a Friend class, explain with example.	BT3	CO2	PO2
	b)	Write a C++ program to find Armstrong number	BT2	CO2	PO2
16	a)	Explain about the various types of access specifiers are used in C++, explain with examples.	BT2	CO2	PO3

UNIT-3

Inheritance & Virtual Functions and Polymorphism

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		Define the Base and Derived classes	BT1	CO3	PO1
2		Define Virtual base class.	BT1	CO3	PO2
3		What are destructors? When they are called?	BT2	CO3	PO2
4		Differentiate between multilevel and hybrid inheritance	BT2	CO3	PO2
5		What are the rules for virtual functions	BT2	CO3	PO2
6		Define the Base and Derived classes	BT2	CO3	PO2
7		Defining a class hierarchy.	BT2	CO3	PO1
8		Write the significance of pure virtual functions in C++?	BT2	CO3	PO2
9		Define Abstract classes.	BT3	CO3	PO2
10		Write a note on virtual destructors.	BT3	CO3	PO3
Part – B (Long Answer Questions)					
11	a)	Explain in detail about the static and dynamic binding.	BT3	CO3	PO2
	b)	Differentiate between virtual function and virtual class. Also explain the rules for virtual function	BT3	CO3	PO3
12	a)	Describe the three different inheritance behaviors achieved through the use of pure virtual, ordinary virtual and non virtual functions?	BT3	CO3	PO2
13	a)	What is inheritance? How does it enable code reusability, explain with an example?	BT3	CO3	PO2

	b)	Explain the different types of inheritances used in C++	BT3	CO3	PO2
14	a)	Write a program to define virtual, non virtual functions and determine size of the object	BT2	CO3	PO2
	b)	What are virtual functions? Describe the rules for declaring virtual functions?	BT2	CO3	PO2
15	a)	What is polymorphism in C++. Explain about its types with example	BT2	CO3	PO2
16	a)	Write a C++ program to read the data of N employee and compute Net salary of each employee (DA=52% of Basic and Income Tax (IT) =30% of the gross salary).	BT3	CO3	PO2
	b)	Write a program to destroy the constructor.	BT3	CO3	PO2

UNIT-4

C++ I/O

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		Define Overloading operators	BT1	CO4	PO1
2		Explain I/O using C functions	BT2	CO4	PO2
3		Explain Stream classes hierarchy	BT2	CO4	PO2
4		Define Stream I/O	BT2	CO4	PO2
5		Define File streams and list out them	BT2	CO4	PO3
6		Define String streams	BT1	CO4	PO2
7		Define functions of ios class	BT2	CO4	PO2
8		Define few special manipulator functions used to perform formatted IO in C++	BT2	CO4	PO2
9		Define few error handling functions	BT1	CO4	PO1
10		What are the several special functions that are used to perform formmated IO operations located in iomanip.h headerfile.	BT2	CO4	PO2
Part – B (Long Answer Questions)					
11	a)	Explain File streams in C++	BT2	CO4	PO2
	b)	Explain String streams with example	BT1	CO4	PO2
12	a)	Explain Stream classes hierarchy with example	BT2	CO4	PO2

	b)	Explain I/O using C functions with example	BT2	CO4	PO3
13	a)	Why we use getline() and write () functions, explain with example	BT2	CO4	PO2
	b)	Explain Error handling during file operations with example	BT2	CO4	PO3
14		Explain Formatted IO using ios class members with example	BT1	CO4	PO2
15		Explain Formatted IO using manipulators with example	BT1	CO4	PO2
16	a)	Explain Operators Overloading in C++ with example	BT1	CO4	PO2
	b)	Write a C++ to illustrate the concepts of console I/O operations.			

UNIT-5

Exception Handling

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		What do you mean by exception handling.	BT2	CO5	PO2
2		Discuss the benefits of exception handling.	BT2	CO5	PO2
3		Explain about rethrowing an exception.	BT1	CO5	PO3
4		Describe the role of keywords try, throw and catch in exception handling.	BT1	CO5	PO2
5		What do you mean by stack unwinding.	BT2	CO5	PO2
6		Discuss about exception objects.	BT1	CO5	PO2
7		What is rethrowing an exception	BT2	CO5	PO2
8		How exceptions are handled in C++	BT2	CO5	PO1
9		Explain multiple catch handlers.	BT2	CO5	PO2
10		Explain few C++ Standard Exceptions	BT3	CO5	PO2
Part – B (Long Answer Questions)					
11	a)	Explain C++ Standard Exceptions and describe them	BT2	CO5	PO3
	b)	Write a C++ to illustrate the concepts of console I/O operations.	BT2	CO5	PO2
12	a)	Explain Catching Exceptions with example	BT1	CO5	PO2
	b)	Write a program to solve sum of individual digits.	BT2	CO5	PO2

13	**a)**	**Explain Re throwing Exceptions with example**	**BT1**	**CO5**	**PO2**
	b)	**Write a program to find Fibonacci series**	**BT3**	**CO5**	**PO2**
14		**Explain Exception specifications with explain**	**BT2**	**CO5**	**PO1**
15		**Explain Exception Objects with example**	**BT1**	**CO5**	**PO2**
16		**What is meant by Catching all the exceptions in C++, explain with example**	**BT1**	**CO5**	**PO2**

*** Blooms Taxonomy Level (BT) (L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analyzing; L5 – Evaluating; L6 – Creating)**

Course Outcomes (CO) Program Outcomes (PO)