22ITU206N/22CTU206N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Second Semester)

Common to Branches – **INFORMATION TECHNOLOGY & COMPUTER TECHNOLOGY**

PROGRAMMING IN C++

Time: Three Hours | Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is a feature of Object-Oriented Programming? (i) Modular programming (ii) Global functions (iii) Encapsulation (iv) Structured flow control	K1	CO1
	2	Which operator allows access to a global variable hidden by a local variable in C++? (i) : (ii) : : (iii) -> (iv) .	K2	CO1
2	3	What is function overloading in C++? (i) Using different function names for similar tasks (ii) Using the same function name with different parameter types/numbers (iii) Combining two functions (iv) Using multiple classes with same function	K1	CO2
	4	Which constructor is invoked when an object is created without passing parameters? (i) Copy Constructor (ii) Default Constructor (iii) Parameterized Constructor (iv) Virtual Constructor	K1	CO2
3	5	Which operator cannot be overloaded? (i) + (ii) [ ] (iii) :: (iv) ==	K2	CO3
	6	Which inheritance type ensures only one instance of base class is inherited in a diamond problem? (i) Single (ii) Multiple (iii) Virtual (iv) Multilevel	K2	CO3
4	7	Which keyword is used for dynamic memory allocation? (i) malloc (ii) new (iii) alloc (iv) dynamic	K2	CO4
	8	Which keyword is used for dynamic memory allocation? (i) delete (ii) free (iii) release (iv) dispose	K3	CO4
5	9	Which is the correct syntax to declare a class template? (i) template class T (ii) template <class T> (iii) template T (iv) template<> class T	K2	CO5
	10	Which combination is used for exception handling? (i) if-else (ii) throw-catch (iii) try-catch (iv) break-catch	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Apply the fundamental concepts of Object-Oriented Programming for an example.	K3	CO1
		(OR)		
	11.b.	Differentiate between formatted and unformatted I/O in C++ with examples.		
2	12.a.	Identify the rules of function overloading.	K3	CO2
		(OR)		
	12.b.	Utilize constructors and destructors in C++ with their characteristics.		
3	13.a.	Assess the process of overloading a binary operator with an example.	K5	CO3
		(OR)		
	13.b.	Appraise the virtual base class with an example and its significance.		
4	14.a.	Compare the implementation of static and dynamic binding with suitable examples.	K5	CO4
		(OR)		
	14.b.	Determine the advantages of sequential and random file access with examples.		
5	15.a.	Elaborate the usage of class templates in C++ with an example.	K6	CO5
		(OR)		
	15.b.	Estimate the different exception handling techniques in C++.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze the advantages of Object-Oriented Programming over procedural programming with examples.	K4	CO1
2	17	Compare and contrast static member functions and friend functions in C++. When would use one over the other?	K4	CO2
3	18	Appraise the different types of inheritance in C++ with examples.	K5	CO3
4	19	Determine the merits of polymorphism in C++ and appraise its types with examples.	K5	CO4
5	20	Elaborate exception handling in C++ with program examples.	K6	CO5

Z-Z-Z END