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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2024 and later)

PROGRAMME AND BRANCH: B.Sc., COMPUTER SCIENCE

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	CORE - 3	U24CS303	OBJECT ORIENTED PROGRAMMING CONCEPTS USING C++

Date & Session: 07.11.2025/AN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	Mention any one characteristic of Object-Oriented Programming. a) Modularity b) Recursion c) Compilation d) Typing
CO1	K2	2.	Where is inline functions typically expanded by the compiler? a) at runtime b) at link time c) at compile time d) during execution
CO2	K1	3.	How are static member functions called in C++? a) Using an object only b) Using class name only c) Using class name or object d) Cannot be called at all
CO2	K2	4.	What is the correct way to define a friend function? a) friend void display (); b) private void display(); c) void friend display(); d) static void display();
CO3	K1	5.	Which access specifier allows derived classes to access base class members? a) private b) protected c) static d) final
CO3	K2	6.	Which type of inheritance involves a single base class and multiple derived classes? a) Single Inheritance b) Multiple Inheritance c) Hierarchical Inheritance d) Hybrid Inheritance
CO4	K1	7.	What is the type of the this pointer in a class with name MyClass? a) MyClass b) MyClass& c) MyClass* d) MyClass::this
CO4	K2	8.	When a base class pointer points to a derived class object and calls a function, which version is executed? a) Derived class version b) Base class version c) Compiler error d) Runtime error
CO5	K1	9.	Which header file is used for file operations in C++? a) <file.h> b) <fstream> c) <iostream> d) <ofstream>
CO5	K2	10.	What is the default file mode for ofstream? a) ios::in b) ios::app c) ios::out d) ios::trunc
Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	11a.	Analyse the major pillars of OOPs. (OR)

CO1	K3	11b.	Write a program that reads a character from the user and checks whether it is a vowel or consonant using switch-case
CO2	K3	12a.	Differentiate between defining member functions inside and outside the class. (OR)
CO2	K3	12b.	Write a program to illustrate overloading of functions using different number of arguments.
CO3	K4	13a.	Distinguish the single inheritance and multiple inheritance with examples. (OR)
CO3	K4	13b.	Illustrate concept of hierarchical inheritance with example.
CO4	K4	14a.	Examine the principle of pointer to a derived class with a suitable example (OR)
CO4	K4	14b.	Write a short note on the use of new and delete operators in dynamic memory allocation.
CO5	K5	15a.	How is random access achieved in files? Explain seekg() and seekp() with syntax (OR)
CO5	K5	15b.	Discuss any five string handling functions in C++?

Course Outcome	Bloom's K-level	Q. No.	SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	Illustrate the features of object oriented programming with C++/Java. (OR)
CO1	K3	16b.	Explain the decision-making statements (if-else, if-else-if ladder, and switch) in programming.
CO2	K4	17a.	Analyse the usage of constructor and destructor with an example. (OR)
CO2	K4	17b.	Write a C++ program that demonstrates the following concepts in a single class: • Use of static data member • Use of static member function • Use of friend function
CO3	K4	18a.	Write a C++ program to demonstrate multiple inheritance. Explain the concept and challenges on it. (OR)
CO3	K4	18b.	Discuss function overloading and operator overloading in C++. How do they differ? Give appropriate examples.
CO4	K5	19a.	Demonstrate the role of virtual functions in achieving polymorphism. (OR)
CO4	K5	19b.	Write a complete program using base class pointers, derived class objects, and virtual functions to achieve runtime polymorphism. Explain the output.
CO5	K5	20a.	Discuss various file stream classes and file open modes in C++ with appropriate examples. (OR)
CO5	K5	20b.	Write a C++ program to read and write employee records to a file using file stream classes and handle any exceptions that occur during file operations. Use string functions to manipulate employee names.