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



PG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2023 and later)

PROGRAMME AND BRANCH: M.Sc., COMPUTER SCIENCE

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
I	PART - III	CORE-2	P23CS102	OBJECT ORIENTED ANALYSIS AND DESIGN & C++

Date : 06.11.2024 / 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.	What is the primary benefit of using an object-oriented model? a) Easy debugging b) Improved modularity c) Higher processing speed d) Simple to implement
CO1	K2	2.	In the object-oriented paradigm, an object can best be described as: a) A static variable b) A function call c) A memory location d) An instance of a class
CO2	K1	3.	What is a class in object-oriented programming? a) A single instance of an object b) A method for data encapsulation c) A blueprint for creating objects d) A specific function in programming
CO2	K2	4.	Which of the following is NOT a type of relationship among classes? a) Inheritance b) Aggregation c) Composition d) Iteration
CO3	K1	5.	Who developed C++? a) Dennis Ritchie b) Brian Kernighan c) Balagurusamy d) Bjarne Stroustrup
CO3	K2	6.	Which of the following is a correct identifier in C++? a) VAR_1234 b) \$var_name c) 7VARNAME d) 7var_name
CO4	K1	7.	What is the keyword used to inherit a base class in C++? a) inherits b) extends c) public d) private
CO4	K2	8.	Which operator cannot be overloaded in C++? a) + b) - c) * d) ::
CO5	K1	9.	What is the purpose of the new operator in C++? a) To declare a variable b) To allocate memory dynamically c) To delete a variable d) To call a function
CO5	K2	10.	Which keyword is used to declare a function as virtual in C++? a) virtual b) override c) final d) template

Course Outcome	Bloom's K-level	Q. No.	<p style="text-align: center;">SECTION – B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)</p>
CO1	K2	11a.	Define the object model and explain its core elements. (OR)
CO1	K2	11b.	Discuss the nature of an object in object-oriented systems.
CO2	K2	12a.	Demonstrate the nature of a class and its relationship to objects. (OR)
CO2	K2	12b.	Explain the key abstractions in object-oriented design and their role.
CO3	K3	13a.	Write a C++ program to find the largest of three numbers. (OR)
CO3	K3	13b.	Make use of functions in C++ to perform arithmetic operations.
CO4	K3	14a.	Write a C++ program to demonstrate operator overloading. (OR)
CO4	K3	14b.	Utilize the concept of polymorphism in C++ to compute the area of shapes.
CO5	K4	15a.	Analyze the concepts of dynamic memory allocation in C++. (OR)
CO5	K4	15b.	Examine the different methods of exception handling in C++.
Course Outcome	Bloom's K-level	Q. No.	<p style="text-align: center;">SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)</p>
CO1	K4	16a.	Examine the relationship among objects and how it impacts object-oriented design. (OR)
CO1	K4	16b.	Analyze how to apply the object model in real-world software development projects.
CO2	K5	17a.	Evaluate the different types of relationships among classes with necessary examples. (OR)
CO2	K5	17b.	Elucidate the concepts of Inheritance and its types with examples.
CO3	K5	18a.	What is the need for data types in C++? Examine the different primitive data types along with their representations and give examples. (OR)
CO3	K5	18b.	"Control Structures in C++ help programs in dynamic decision making." – Justify.
CO4	K5	19a.	Interpret the role of constructors and destructors in object-oriented programming with suitable examples. (OR)
CO4	K5	19b.	Evaluate the categories of type conversion in C++ with suitable examples.
CO5	K6	20a.	Create two classes namely 'student' and 'mark'. The 'student' class has method 'student_details()' with the details of student_name and student_rollno and 'mark' class has the method 'mark_details()' with the details of 'mark1', and 'mark2'. Prepare a student mark statement using single inheritance. (OR)
CO5	K6	20b.	Develop a C++ program demonstrating pure virtual function with base and derived classes.