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BTECH
(SEM VI) THEORY EXAMINATION 2023-24
OBJECT ORIENTED PROGRAMMING

TIME: 3 HRS**M.MARKS: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.**

a.	Explain the terms Aggregation and Composition.	02
b.	Describe the term Encapsulation with suitable example.	02
c.	Define generosity.	02
d.	Explain the importance of modeling. Also, explain its principles.	02
e.	Mention the names of two procedure-oriented programming languages.	02
f.	List the features of object-oriented programming language.	02
g.	Write a program in C++ to check whether the number is prime or not.	02
h.	Define the use of typedef.	02
i.	Explain the three access specifiers.	02
j.	In C++ by default _____ access modifier is used.	02

SECTION B**2. Attempt any three of the following:**

a.	Explain the importance of modeling? Also, Explain its principles.	10
b.	Differentiate between Activity & Sequence Diagrams with the help of suitable diagrams.	10
c.	Differentiate between Procedural and Object-Oriented Programming paradigm.	10
d.	(i) Write a C++ program to demonstrate the concept of Polymorphism. (ii) Differentiate between macros and Inline functions with suitable examples.	10
e.	Illustrate the use of namespace in C++ with an example. Also, write a Program in C++ to demonstrate the concept of keyword enum in C++	10

SECTION C**3. Attempt any one part of the following:**

a.	What is Data Abstraction? How it is different from encapsulation? Explain with proper example.	10
b.	Explain different types of diagrams in UML along with example of each.	10

4. Attempt any one part of the following:

a.	Design a Use case diagram for Restaurant.	10
b.	Define the purpose of a State Machine Diagram. Also draw State Machine Diagram for Playing Cricket Match.	10

5. Attempt any one part of the following:

a.	Explain the process of combining three Models (Class, Use Case, and Interaction) into object-oriented analysis and design.	10
b.	Explain the advantages and disadvantages of SA/SD and JSD in comparison to Object-Oriented Analysis and Design?	10

6. Attempt any one part of the following:

a.	Explain the concept of constructors in C++. Discuss different types of constructors. Give example of each.	10
b.	What do you understand by a static member function of a class? Discuss their characteristics Give an example where you can justify the use of static member functions.	10

7. Attempt any one part of the following:

a.	What is operator overloading? Differentiate between overloading of binary operator using friend function and without using friend function.	10
b.	Explain the concept of Inheritance, types & its features with example.	10