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Odd Semester Exam 2022

Paper Name: Object Oriented Programming **Paper Code:** BTCSE 504/LE/BTCSEAI 504

Total marks: 75

Total Time: 3 hrs.

SECTION A

All questions are compulsory. 7×5=35 marks

S.No	Question	Marks	CO	BL
1.	What is abstraction and how is it achieved? Explain with example.	5	CO2	L2
2.	What is run time polymorphism? How is it different from static polymorphism?	5	CO3	L1
3.	How do you perceive object-oriented concept in a real-life scenario? Considering a real-life situation, write a program in an OOP language that conveys the advantage of OOP, i.e., with procedural programming, same concept might have not been implemented that efficient.	5	CO1	L6
4.	Explain the difference between Data abstraction and encapsulation?	5	CO2	L3
5.	What is the purpose of inheritance? Explain the various types of inheritance	5	CO4	L2
6.	Why are constructors used? Explain various types of constructors.	5	CO4	L4
7.	Considering a program in C++, illustrate access specifier (AS) in a Class-Object scenario. All constituents of AS must be illustrated.	5	CO3	L5

SECTION B

Attempt any four questions. 4 X 10 = 40 marks

S.No	Question	Marks	CO	BL
1)	What is function overloading? Write a program to perform basic arithmetic operations i.e. addition, multiplication, subtraction and division. Overload the functions to work on various data types i.e integers and float.	10	CO1	L1
2)	Raju has inherited physical properties like height, weight, etc. from his father, and intellectual features from his Grand Father, like IQ, activeness, etc. Raju's friend due to togetherness and closeness has got many features and can access many of his personal	10	CO2	L6

	belongings. Write down a program in C++ to describe all these features, considering yourself as Raju's friend. Clearly, state what the OOP and C++ features have been incorporated into this program.			
3)	Compare and contrast multiple and multilevel inheritance. A class Bank is to be created. It will have name, account number, address and contact. 2 classes will be inherited from it i.e. savings and checking account. They will have functions to display account type and user information and balance in account.	10	CO3	L5
4)	Explain operator overloading in detail. Show an example.	10	CO4	L4
5)	What is overriding? Without which OOP feature, function overriding cannot occur? Explain with justification, using code.	10	CO5	L3
6)	Write short notes on a) Virtual function b) Class and object c) Static keyword d) Destructors e) Data types	10	CO2	L2

BL-Bloom's Taxonomy Levels (1-Remembering, 2- Understanding, 3-Applying, 4 - Analysing, 5- Evaluating, 6 – Creating)