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Supplementary/ Improvement Exam 2023 (For Odd semester 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 are the basic concepts of OOPs which make any programming language be called object oriented?	5	CO1	L1
2.	Explain static polymorphism with example.	5	CO3	L1
3.	Is encapsulation necessary for object oriented languages?	5	CO2	L6
4.	Explain the purpose of the 'protected' keyword with the help of an example.	5	CO4	L2
5.	Explain the concept of 'Abstract classes' with the help of an example.	5	CO2	L3
6.	What is super class and subclass? Elaborate.	5	CO3	L5
7.	Explain destructor. Can a destructor exist without a constructor?	5	CO4	L4

SECTION B

Attempt any four questions. **4 X 10 = 40 marks**

S.No	Question	Marks	CO	BL
1)	How is dynamic polymorphism achieved? Elaborate with suitable code.	10	CO3	L2
2)	Create a class called Movies. Add attributes of name, genre, duration and language. Add function to display all information and another to add information. Create constructor and destructor for this class. Overload the constructor.	10	CO2	L5
3)	What is the use of inheritance? Design a class Car having the following attributes: owner name, carName, carID, speed. It will have the functions to addCarInfo(), deleteCar(), updateCarInfo(), printCarInfo() Inherit 3 classes from it i.e. SUV, Wagon, Electrical. Add functions to them to display their names. Override printCarInfo() function.	10	CO1	L6
4)	How is encapsulation and abstraction achieved? Explain in detail with code.	10	CO4	L4

P.T.O.

5)	(a) How is class different from object? Elaborate (b) Why are access specifiers required? Explain with code.	10	CO2	L3
6)	Write short notes on (a)Virtual functions (b) MVC (model view controller) pattern (c) Abstract data type (d) Software development process (e) GUIs	10	CO5	L1

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