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Odd Semester Supplementary 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 encapsulation and how is it achieved? Explain with example.	5	CO2	L2
2.	What is function overriding? Explain with example	5	CO3	L1
3.	How are object-oriented languages different from procedural languages?	5	CO1	L6
4.	How are Virtual functions different from other functions? Show with program.	5	CO2	L3
5.	What is the purpose of access specifiers? When should one derive a class publicly or privately? Elaborate with the help of an example.	5	CO4	L2
6.	How are constructors different from destructors? Use example to explain	5	CO4	L4
7.	Compare Multiple inheritance and multilevel inheritance	5	CO3	L5

SECTION B

Attempt any four questions. 4 X 10 = 40 marks

S.No	Question	Marks	CO	BL
1)	Why was the concept of inheritance introduced in OOPs? Explain the various types of inheritance. A class 'Staff' is to be created. It will have name, employee code, designation, address and contact. 2 classes will be inherited from it i.e. 'TeachingEmployee' and 'NonTeachingEmployee'. They will have functions to display all the information of employee.	10	CO1	L1
2)	Create 3 constructor function and destructor for a class MyCalender. The class will have date and time stored with functions to display this. If 3 objects are created of this class d1,d2,d3 in what order will the constructors and destructors be invoked? Explain with example	10	CO2	L6

3)	What is polymorphism? What are its types? What purpose does it achieve? Create program to show both types of polymorphism.	10	CO3	L5
4)	(a) While implementing encapsulation, abstraction is also implemented. Comment. Show example (b) Differentiate between class and object	10	CO4	L4
5)	How are overloading and overriding different? Explain with justification, using code.	10	CO2	L3
6)	Write short notes on (a) Generic types and collection (b) Static keyword (c) Abstract data type (d) Design Pattern (e) MVC (model view controller)	10	CO5	L2

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