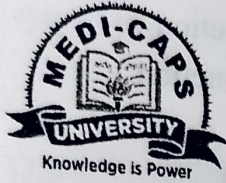


Total No. of Questions: 6

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Enrollment No... EN21C2304039



Faculty of Engineering / Science  
End Sem (Odd) Examination Dec-2022  
CS3CO30 / BC3CO35 Object Oriented Programming  
Programme: B.Tech. / B.Sc.  
Branch/Specialisation: CSE/ Computer Science

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. How many classes can be defined in a single program? 1  
(a) Only 1 (b) Only 100  
(c) Only 999 (d) As many as you want
- ii. Which language does not support single level inheritance 1  
(a) C++ (b) C (c) JAVA (d) All of these
- iii. If different properties and functions of a real world entity is grouped or embedded into a single element, what is it called in OOP language? 1  
(a) Inheritance (b) Polymorphism  
(c) Encapsulation (d) Abstraction
- iv. What is syntax of defining a destructor of class A? 1  
(a) A(){} (b) ~A(){} (c) A::A(){} (d) ~A(){};
- v. \_\_\_\_\_ is a simple structural connection or channel between classes and is a relationship where all objects have their own lifecycle and there is no owner. 1  
(a) Inheritance (b) Composition  
(c) Realization (d) Aggregation
- vi. A \_\_\_\_\_ connects a single class type (serving in one role) to itself (serving in another role). 1  
(a) N-ary Association (b) Directed Association  
(c) Recursive association (d) Association End
- vii. What will be the order of execution of base class constructors in the following method of inheritance? 1  
class a: public b, public c {...};  
(a) b(); c(); a(); (b) c(); b(); a();  
(c) a(); b(); c(); (d) b(); a(); c();

P.T.O.



- viii. A virtual function that has no definition within the base class is called- 1  
 (a) Friend function (b) Pure static function  
 (c) Pure const function (d) Pure virtual function
- ix. A template class can have- 1  
 (a) Only one generic data type  
 (b) At most two data types  
 (c) Only generic type of integers and not characters  
 (d) More than one generic data type
- x. Which stream class is to only write on files? 1  
 (a) ifstream (b) ofstream (c) fstream (d) iostream
- Q.2 i. What is OOP? Enlist applications of OOP language. 3  
 ii. What the main concepts of object-oriented programming? 7  
 Explain each one of them in detail.
- OR iii. Differentiate between the following- 7  
 (a) OOP & POP  
 (b) Class & Object
- Q.3 i. What are constructor and destructor? Explain with its syntax and 3  
 usage.
- ii. What are the different types of constructors? Explain them. Write 7  
 a program to demonstrate constructor overloading.
- OR iii. What are the different types of objects? Explain them. Write a 7  
 program to differentiate each object based on their visibility and persistency.
- Q.4 i. Define delegation and give example also. 3  
 ii. Explain the following terms- 7  
 (a) Association and its types  
 (b) Differentiate between aggregation and composition
- OR iii. Explain the following terms with an example- 7  
 (a) Types of aggregation and its properties  
 (b) Multiplicity  
 (c) Generalization
- Q.5 i. Explain virtual function. 3



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- ii. What is inheritance? What are the types of inheritance? Write a program to demonstrate the concept of virtual base class. 7
- OR iii. What is polymorphism? What are the types of polymorphism? Write a program to demonstrate binary operator overloading. 7
- Q.6 i. What is STD? Explain. 3
- ii. What are template classes and template functions? Write a program for template class and template function. 7
- OR iii. Define container? What is the use of container? Write a program for defining the container. 7

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