

Total No. of Questions: 6

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Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2018
CS3CO23/IT3CO19 Object Oriented Programming
Programme: B.Tech. Branch/Specialisation: CSE/IT

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. Which of the following best defines a class? **1**
(a) Parent of an object (b) Instance of an object
(c) Blueprint of an object (d) Scope of an object
- ii. Which concept of OOP is false for C++? **1**
(a) Code can be written without using classes
(b) Code must contain at least one class
(c) A class must have member functions
(d) At least one object should be declared in code
- iii. If object is passed by value, _____ **1**
(a) Copy constructor is used to copy the values into another object in the function
(b) Copy constructor is used to copy the values into temporary object
(c) Reference to the object is used to access the values of the object
(d) Reference to the object is used to created new object in its place
- iv. Which among the following is false? **1**
(a) Object must be created before using members of a class
(b) Memory for an object is allocated only after its constructor is called
(c) Objects can't be passed by reference
(d) Objects size depends on its class data members
- v. Whole-part relationship among classes is described by **1**
I. Association II. Aggregation III. Composition
(a) Only II (b) Only III (c) Both II and III (d) Both I and II

P.T.O.

[2]

- vi. The direction of an association is **1**
(a) Multiplicity (b) Navigation
(c) Recursion (d) Named association.
- vii. Which among the following can restrict class members to get inherited? **1**
(a) Private (b) Protected (c) Public (d) All of these
- viii. Which among the following is correct for hierarchical inheritance? **1**
(a) Two base classes can be used to be derived into one single class
(b) Two or more classes can be derived into one class
(c) One base class can be derived into other two derived classes or more
(d) One base class can be derived into only 2 classes
- ix. Which of following is both input and output stream class. **1**
(a) iostream (b) fstream (c) Both (a) and (b) (d) None of these
- x. Which of the following is a legal way to create template class? **1**
(a)

```
template <class T>
class myClass
{
.... body of the class
};
```


(b)

```
class <template T>
class myClass
{
.... body of the class
};
```


(c)

```
template class myClass
{
.... body of the class
};
```


(d)

```
template < T>
class myClass
{
.... body of the class
};
```

[3]

- Q.2 i. Explain the concept of information hiding along with its applications. **2**
ii. Explain the concept of Abstraction and Encapsulation, with examples. **3**
iii. What are the principle features of object oriented system? Explain each of them in brief. **5**
OR iv. Write the merits and demerits of object oriented programming languages as compared to procedure oriented languages. **5**
- Q.3 i. Explain Constructors and destructors. **3**
ii. Compare Local, global, static and dynamic objects on following points **7**
(a) Way and place of declaration
(b) Scope
(c) Life Time
OR iii. What do you mean by the static members of a class? Write their characteristics. **7**
- Q.4 i. Define the following terms with example: **3**
(a) Association (b) Aggregation
ii. Explain the types of association with multiplicities. **7**
OR iii. Discuss the relationships among the classes, explain in detail. **7**
- Q.5 i. Discuss and compare the run time and compile time polymorphism. **4**
ii. Define inheritance and its types with suitable examples. **6**
OR iii. What is meant by access control modifiers? Compare with example for each. What is disinheritance? **6**
- Q.6 i. Define container and write its types. **3**
ii. What is an iterator in container classes? Explain its different types. **7**
OR iii. Explain persistent object. Discuss different ways to make an object persistent. **7**

Marking Scheme

CS3CO23/IT3CO19 Object Oriented Programming

Q.1	i. Which of the following best defines a class? (c) Blueprint of an object	1	
	ii. Which concept of OOP is false for C++? (b) Code must contain at least one class	1	
	iii. If object is passed by value, _____ (b) Copy constructor is used to copy the values into temporary object	1	
	iv. Which among the following is false? (c) Objects can't be passed by reference	1	
	v. Whole-part relationship among classes is described by I. Association II. Aggregation III. Composition (c) Both II and III	1	
	vi. The direction of an association is (b) Navigation	1	
	vii. Which among the following can restrict class members to get inherited? (a) Private	1	
	viii. Which among the following is correct for hierarchical inheritance? (c) One base class can be derived into other two derived classes or more	1	
	ix. Which of following is both input and output stream class. (c) Both (a) and (b)	1	
	x. Which of the following is a legal way to create template class? (a) template <class T> class myClass { body of the class };	1	
Q.2	i. Concept of information hiding Its applications	1 mark	2
	ii. Concept of Abstraction Encapsulation	1.5 marks	3
	iii. At least three Features of object oriented system	1.5 marks	5
OR	iv. Merits and demerits of object oriented programming languages 5 differences 1 mark for each		5

Q.3	i. Constructors Destructors.	1.5 marks		
	ii. Compare Local Global Static Dynamic objects	1.5 marks		3
	iii. Static members of a class Their characteristics	2 marks		7
OR	iii. Static members of a class Their characteristics	2 marks		7
Q.4	i. Define the following terms with example: (a) Association (b) Aggregation	1.5 marks		3
	ii. At least three Types of association with multiplicities. For Naming For explanation 2 marks each (2 mark * 3)	1.5 marks		7
OR	iii. At least four Relationships among the classes For Naming For explanation 1.5 marks each (1.5 mark * 4)	1 mark		7
Q.5	i. Run time polymorphism Compile time polymorphism.	1 mark		3
	ii. At least three types of Inheritance 2 marks for each (2 marks *3)	2 marks		6
OR	iii. Definition of access control modifiers Example for each Disinheritance	6 marks		6
Q.6	i. Definition of Container At least two types.	1 mark		3
	ii. Iterator in container classes At least two types.	1 mark		3
OR	iii. Persistent object At least two ways to make an object persistent.	4 marks		7
