Total No. of Questions: 6 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2022

IT3CO28 Object Oriented Programming

Programme: B.Tech. Branch/Specialisation: 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 Feature of object-oriented programming illustrated the code reusability? **1**

(a) Polymorphism (b) Inheritance
(c) Abstraction (d) None of these

ii. Which one of the following features is not provided by C but provided by C++? **1**

(a) Pointers (b) Structures
(c) References (d) Functions

iii. _____ has the same name as that of class. **1**

(a) Function (b) Object
(c) Constructor (d) None of these

iv. Which of the following is an ADT? **1**

(a) Class (b) Char (d) Int (d) All of these

v. _____ defines how many objects may be connected across as an instance of association? **1**

(a) Recursive relationship (b) Composition
(c) Multiplicity (d) None of these

vi. In _____, all objects have their own lifecycle and there is no owner. **1**

(a) Association (b) Composition
(c) Aggregation (d) None of these

vii. Which programming language restricts the use of multiple inheritance? **1**

(a) Java (b) C++
(c) Both (a) and (b) (d) SmallTalk

P.T.O.

viii. Which of the following Operator(s) cannot be overloaded. **1**

(a) Sizeof (b) ternary operator(?:)
(c) Neither (a) nor (b) (d) Both (a) and (b)

ix. Templates can be represented in the form of _____. **1**

(a) Class templates (b) Function templates
(c) Both (a) and (b) (d) None of these

x. Which one of the following is not a component of STL? **1**

(a) Containers (b) Iterators (c) Algorithm (d) None of these

Q.2 i. Define objects and classes. **2**

ii. What are different advantages of data abstraction? **3**

iii. What are different advantages of OOPs over procedure-oriented programming language? **5**

OR iv. What are areas for applications of object-oriented programming? **5**

Q.3 i. Write the difference between normal and static data member. **2**

ii. What do you understand by static function? Explain it with example program. **8**

OR iii. What are different types of constructors? Explain parameterized constructor with the help of example program. **8**

Q.4 i. What is association? What are different types of association? **3**

ii. What is aggregation? Explain different types of aggregation? **7**

OR iii. Explain object delegation with the help of example program. **7**

Q.5 i. Define polymorphism. What are different types of polymorphism? **4**

ii. What do you understand by late binding? Explain with example program. **6**

OR iii. What is abstract class? Explain it with example program. **6**

Q.6 Attempt any two:

i. Describe the various classes available for the file operations. **5**

ii. Why we use function templates? How to define function template? **5**

iii. What are the steps involved in using a file in C++ program? Explain with example. **5**

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Marking Scheme

IT3CO28 Object Oriented Programming

Q.1	i)	Which Feature of Object-Oriented Programming illustrated the code reusability? b) Inheritance	**1**
	ii)	Which one of the following feature is not provided by C but provided by C++? c) References	**1**
	iii)	….. has the same name as that of class. c) Constructor	**1**
	iv)	Which of the following is an ADT? a) class	**1**
	v)	……. defines how many objects may be connected across as an instance of association? c) Multiplicity	**1**
	vi)	In ……, all objects have their own lifecycle and there is no owner. a) Association	**1**
	vii)	Which programming language restricts the use of multiple inheritance? a) Java	**1**
	viii)	Which of the following Operator(s) cannot be overloaded. d) both a and b	**1**
	ix)	Templates can be represented in the form of ….. c) both a and b	**1**
	x)	Which one of the following is not a components of STL d) none of these	**1**
Q.2	i.	Define objects and classes. objects 1 mark classes 1 mark	**2**
	ii.	What are different advantages of data abstraction? Advantages each 1 mark (1 mark *3)	**3**
	iii.	What are different advantages of OOPs over Procedure-oriented programming language? Advantages each 1 mark (1 mark *5)	**5**
OR	iv.	What are areas for applications of object-oriented programming? Applications each 1 mark (mark*5)	**5**
Q.3	i.	Write the difference between normal and static data member. Differences each 1 mark (1 mark *2)	**2**
	ii.	What do you understand by static function? Explain it with example program. static function 2 marks Example Program 6 marks	**8**
OR	iii.	What are different types of constructors? Explain parameterized constructor with the help of example program. types of constructors 2 marks Parameterized constructor 2 marks Example Program 4 marks	**8**
Q.4	i.	What is Association? What are different types of association? Association 2 marks Types of Association 1 mark	**3**
	ii.	What is Aggregation? Explain different types of aggregation? Aggregation 1 mark types of aggregation each 2 Marks (2 marks *3) 6 marks	**7**
OR	iii.	Explain object delegation with the help of example program. object delegation 3 marks Example Program 4 marks	**7**
Q.5	i.	Define polymorphism. What are different types of polymorphism? Polymorphism 2 marks types of polymorphism 2 marks	**4**
	ii.	What do you understand by late binding? Explain with example. late binding 2 marks Example Program 4 marks	**6**
OR	iii.	What is abstract class? Explain it with example program. abstract class 2 marks Example Program 4 marks	**6**
Q.6		Attempt any two:	
	i.	Describe the various classes available for the file operations. classes 1 marks for each (1 mark*5)	**5**

	ii.	Why we use function templates? How to define function template? Why we use function templates 2 marks define function template 3 marks	**5**
	iii.	What are the steps involved in using a file in c++ program? Explain with example. Steps 3 marks Example 2 marks	**5**

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