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Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2017
IT3CO03 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. What is 'Basis of Encapsulation'? 1
(a) Object (b) Class (c) Method (d) All of these
 - ii. Which of the following supports the concept of hierarchical classification? 1
(a) Polymorphism (b) Encapsulation
(c) Abstraction (d) Inheritance
 - iii. Which of the following is not the member of class? 1
(a) Static function (b) Friend function
(c) Const function (d) Virtual function
 - iv. Which of the following is an abstract data type? 1
(a) Int (b) Double (c) String (d) Class
 - v. Which of the following concepts means determining at runtime what method to invoke? 1
(a) Data hiding (b) Dynamic Typing
(c) Dynamic binding (d) Dynamic loading
 - vi. How many instances of an abstract class can be created? 1
(a) 1 (b) 5 (c) 13 (d) 0
 - vii. Which of the following is correct about function overloading? 1
(a) The types of arguments are different.
(b) The order of argument is different.
(c) The number of argument is same.
(d) Both A and B

P.T.O.

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- viii. Which of the following is correct about class and structure? **1**
(a) Class can have member functions while structure cannot.
(b) Class data members are public by default while that of structure are private.
(c) Pointer to structure or classes cannot be declared.
(d) Class data members are private by default while that of structure are public by default.
- ix. Which of the following is the correct class of the object cout? **1**
(a) Iostream (b) Istream (c) Ostream (d) Ifstream
- x. Which of the following cannot be used with the keyword virtual? **1**
(a) Class (b) Member functions
(c) Constructor (d) Destructor
- Q.2 i. Define Object Oriented Programming. **2**
ii. Write three characteristics of object oriented programming **3**
iii. How objects oriented programming is different from procedure oriented programming? Explain with example. **5**
- OR iv. Write the advantages of Polymorphism and Inheritance concepts. **5**
- Q.3 i. Explain significance of abstract data-type? **2**
ii. How real world objects modelled using object oriented programming concepts? Explain example also. **8**
- OR iii. Describe meta-class. Also explain object lifetime and scope with example. **8**
- Q.4 i. What is an association? Write syntax structure for many to one association. **3**
ii. Explain multiplicity and navigability with appropriate example? **7**
- OR iii. Discuss the different types of relationship between classes? **7**
- Q.5 i. Describe static and dynamic polymorphism with example? **4**
ii. Discuss the multiple inheritance with suitable example? **6**

- OR iii. What is disinheritance? Also define private and protected properties. **6**
- Q.6 Attempt any two:
i. Write the difference between typical functions and iterator types. **5**
ii. Define the different types of file attributes. **5**
iii. Explain container class with example. **5**

**IT3CO03 Object Oriented Programming
Marking Scheme**

Q.1	i.	What is 'Basis of Encapsulation'?	1
		(d) All of these	
	ii.	Which of the following supports the concept of hierarchical classification?	1
		(d) Inheritance	
	iii.	Which of the following is not the member of class?	1
		(b) Friend function	
	iv.	Which of the following is an abstract data type?	1
		(d) Class	
	v.	Which of the following concepts means determining at runtime what method to invoke?	1
		(c) Dynamic binding	
	vi.	How many instances of an abstract class can be created?	1
		(d) 0	
	vii.	Which of the following is correct about function overloading?	1
		(d) Both (a) and (b)	
	viii.	Which of the following is correct about class and structure?	1
		(d) Class data members are private by default while that of structure are public by default.	
	ix.	Which of the following is the correct class of the object cout?	1
		(c) Ostream	
	x.	Which of the following cannot be used with the keyword virtual?	1
		(c) Constructor	
Q.2	i.	Definition of 2 marks	2
	ii.	Each characteristics: 1 mark (1 mark * 3 = 3 marks)	3
	iii.	Difference: 3 marks + Example: 2 marks	5
OR	iv.	2.5 marks for minimum 3 advantages 2.5 marks for inheritance	5
Q.3	i.	2 marks for significance	2
	ii.	Object Modelled 5 marks + example 3 marks	8
OR	iii.	2 marks for metaclass definition	8

2 marks for scope definition
2 marks for life time definition
2 marks for example of scope & lifetime.

Q.4	i.	1 mark for association 2 marks for syntax structure	3
	ii.	2.5 marks for multiplicity and 1 mark for example of multiplicity 2.5 marks for navigability 1 mark for example of navigability	7
OR	iii.	7 marks for any 4 relationship (Eg. Aggregation, association, comparison, inheritance, multiplicity etc.)	7
Q.5	i.	2 marks for static polymorphism with example 2 marks dynamic polymorphism with example	4
	ii.	2 marks for definition 4 marks for example of multiple inheritance	6
OR	iii.	2 marks for disinheritance 2 marks for private properties 2 marks for protected properties.	6
Q.6		Attempt any two:	
	i.	2.5 marks for typical functions 2.5 marks for iterator types.	5
	ii.	Each attributes 1 mark (1 mark * 5 = 5 marks)	5
	iii.	3 marks for container class 2 marks for example.	5
