

Enrollment No.....



Faculty of Science
End Sem (Even) Examination May-2022
CA3CO05 Object Oriented Programming

Programme: BCA

Branch/Specialisation: Computer
Application**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. Data abstraction: 1
- (a) Hides implementation details
 - (b) Increase code complexity
 - (c) Mechanism of deriving a new class
 - (d) Writing data and functions into a single unit
- ii. A class best describes as: 1
- (a) A public variable
 - (b) The state or behaviour of an object
 - (c) A group/block of code that takes input from the user
 - (d) Contains an address and takes up memory space
- iii. Data types can be defined as or used as____: 1
- (a) Real number with single or double precision
 - (b) Things like class, object, and methods
 - (c) All fields will be assigned default values
 - (d) To create variables and objects
- iv. Explicit conversion is- 1
- (a) Type-casting
 - (b) Automatic conversion
 - (c) Compiler carries out the conversions
 - (d) Data types are converted to the largest data type
- v. In call by reference- 1
- (a) Value being passed to the function is locally stored by the function
 - (b) Original value is passed in the function
 - (c) Original value is modified
 - (d) Original value is not modified

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- vi. Access modifiers are used to implement- **1**
 (a) Restrictions on the class members
 (b) Inheritance
 (c) Class, object, and methods
 (d) Full access to the class members
- vii. A _____ is an existing class from which the other **1**
 classes are derived and inherit the methods and properties.
 (a) Subclass (b) Derived class
 (c) Base class (d) Child class
- viii. Function Overloading is defined as the process of _____ with the **1**
 same name, but different in parameters.
 (a) Having two or more function
 (b) Having only one function
 (c) Increases the inaccessibility of the program
 (d) Defining different names for the different function
- ix. File handling provides a mechanism- **1**
 (a) To store elements of the same type placed in contiguous memory locations.
 (b) To store the output of a program in a file and to perform various operations on it.
 (c) Represent storing multiple objects in a single name.
 (d) A data structure, which can store a fixed-size collection of elements of the same data type.
- x. Exception Handling is a mechanism to- **1**
 (a) Handle runtime errors
 (b) Terminate a program
 (c) Ability of a message to be displayed in more than one form
 (d) Many classes that are related to each other by inheritance
- Q.2 i. Outline four basics of object-oriented programming principles. **2**
 ii. What is the difference between static and dynamic binding? **3**
 iii. What is compilation and linking process? **5**
- OR iv. What is the difference between compile-time polymorphism and run-time polymorphism? **5**
- Q.3 i. What are identifiers in OOPs? **2**

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- ii. Explain declaration and dynamic initialization. Give an example of dynamic initialization. **8**
- OR iii. Explain implicit & explicit conversions in OOPs. Give an example of explicit conversions. **8**
- Q.4 i. What is default access specifier for data members or member functions declared within a class without any specifier? **3**
 ii. In call by values can we alter the values of actual variables through function calls? Explain with examples. **7**
- OR iii. What are the static members and static member functions? Is static function and static member function same? **7**
- Q.5 i. What is inheritance in OOP? Explain with its advantages. **4**
 ii. What is constructor in derived class? Can we use constructor in derived class? **6**
- OR iii. What is function overloading in OOP? How operators are overloaded using friend function? **6**
- Q.6 Attempt any two:
 i. What is file handling? Explain with an example. **5**
 ii. What is error handling in OOP? Explain kind of errors can occur during the file operations. **5**
 iii. Why do we need to handle exceptions? Why are exception caused? **5**

Marking Schem CA3CO05 Object Oriented Programming

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Q.1	i.	Data abstraction:		1
		(a) Hides implementation details		
	ii.	A class best describes as:		1
		(b) The state or behaviour of an object		
	iii.	Data types can be defined as or used as_____:		1
		(d) To create variables and objects		
	iv.	Explicit conversion is-		1
		(a) Type-casting		
	v.	In call by reference-		1
		(c) Original value is modified		
Q.2	vi.	Access modifiers are used to implement-		1
		(a) Restrictions on the class members		
	vii.	A _____ is an existing class from which the other classes are derived and inherit the methods and properties.		1
		(c) Base class		
	viii.	Function Overloading is defined as the process of _____ with the same name, but different in parameters.		1
		(a) Having two or more function		
	ix.	File handling provides a mechanism-		1
		(b) To store the output of a program in a file and to perform various operations on it.		
	x.	Exception Handling is a mechanism to-		1
		(a) Handle runtime errors		
Q.3	i.	Encapsulation, Abstraction	1 Mark	2
		Inheritance, Polymorphism	1 Mark	
	ii.	Definition	1 Mark	3
		Difference	2 Mark	
	iii.	Definition	2 Marks	5
		Difference	2 Marks	
		Example	1 Mark	
	OR	iv.		5
		Definition	2 Marks	
		Difference	2 Marks	
Q.4		Example	1 Mark	
	i.	Private by default	3 Marks	3
	ii.	Definition	2 Marks	7
		Cannot alter the value	2 Marks	
		Example	3 Marks	
	OR	iii.		7
		Definition	2 Marks	
		Difference	2 Marks	
		A static function can only access other static variables or function present in the same class	3 Marks	
Q.5	i.	Definition	2 Marks	4
		Explanation advantage	2 Marks	
	ii.	Definition	3 Marks	6
		Constructor without arguments can be used	3 Marks	
	OR	iii.		6
		Definition	3 Marks	
		Operator overloading function must proceed with friend keyword	3 Marks	
Q.6		Attempt any two:		
	i.	Definition	2 Marks	5
		Example	3 Marks	
	ii.	Definition	2 Marks	5
		Explain kind of error	3 Marks	
	iii.	Definition	2 Marks	5
		Exception caused (Example)	3 Marks	
