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| E:\LOGO\images.jpg | | **Jahangirnagar University**  Department of Computer Science and Engineering  2ndYear 1stSemester B.Sc. (Hons.) Final Examination -2017 | | |
| Course Title: ***Object Oriented Programming***  Time: **3 Hours**. | | | Course No: **CSE-209**  Full Mark: **60** | |
| [There are 8(**Eight**) questions. Answer any 6(**Six**) questions. Each question carries equal marks. Figures in the right margin indicate marks.] | | | | |
|  | 1. Define Object Oriented Programming (OOP). What are the features of OOP? | | | 3 |
| 1. Difference between Object Oriented Programming and Procedure Oriented Programming. | | | 2 |
| 1. Define constructor. Can we have more than two constructer in a class? If yes, explain the need for such situation. | | | 3 |
| 1. What does the following loop print out?   **int** m=1;  **while**(m <11)  {  m++;  **cout**<<m++<<**endl**;  } | | | 2 |
|  | 1. What is output of following code   #include <iostream>  **using namespace std**;  **class** Test{  **float** number;  **public**:  Test (**float** x){number=x;}  **void** display(Test &t1){  **cout**<<"Test Display"<<**endl**;  }  **friend void** display (Test &x1);  };  **void** display (Test &x1){  **cout**<<x1.number<<**endl**;  }  **int** main(){  Test t1(10.1);  t1.display(t1);  display (t1);  } | | | 2 |
| 1. What is the importance of destructor? | | | 2 |
| 1. When the memory is deallocated to an object? Explain with a C++ program. | | | 3 |
| 1. What do you mean by function? Define inline function? What is the prototype of function? | | | 3 |
|  | 1. How does constructor differ from normal functions? Define function overloading with a C++ program? | | | 4 |
| 1. Write a C++ program for Complex Number and overload following operators 2. *binary plus operator (+)* for complex number addition 3. *compare operator(==)* to check twocomplex number is equal or not. | | | 6 |
|  | 1. Define a class to represent bank accounts include the following data members, member functions.   Data Members:   1. name of depositor 2. accounts number 3. types of account 4. balance amount   Member Functions   1. to initialize value 2. to deposit an amount 3. to withdraw an amount 4. display name & balance | | | 5 |
| 1. Write a short note on abstract class | | | 2 |
| 1. Define virtual function. Highlight the difference between pure virtual functions and virtual function | | | 3 |
|  | 1. Explain recursive function. Write a recursion program in C++ for each of the following problems. 2. To calculate factorial. 3. For any integer N, print N numbers in decreasing order (*e.g. if N=6 then print 6, 5, 4, 3, 2, 1.)* | | | 4 |
| 1. What is polymorphism? Explain its types with example. | | | 3 |
| 1. Write a C++ program to swap two numbers using pass by value and pass by reference. | | | 3 |
|  | 1. What is an access specifier? What is the default access mode for class members? Explain the three major class specifier used in C++. | | | 5 |
| 1. What is the use of *scope resolution operator (::)* in C++? | | | 2 |
| 1. Write C++ program for each of the following problems. 2. To reverse a string. 3. To check a string is palindrome or not. | | | 3 |
|  | 1. What does inheritance means in C++? What are its advantages & disadvantages? | | | 3 |
| 1. What are different forms of inheritance? Give an example of each. | | | 4 |
| 1. Explain the concept of visibility mode in inheritance with example. | | | 3 |
|  | 1. What is difference between early and late binding? | | | 3 |
| 1. Explain stream classes and stream class hierarchy for input /output. | | | 3 |
| 1. Write a program to read text file and perform following operation 2. Display count of character in file 3. Display count of new line in file | | | 4 |

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