Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17CS2012** | **Duration :** | **3hrs** |
| **Sub. Name :** | **OBJECT ORIENTED PROGRAMMING IN C++** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Illustrate the usage of any thee escape sequences with sample code. | CO1 | 6 |
| b. | Write a program that generates the following output:  10  20  19  Use an integer constant for the 10, an arithmetic assignment operator to generate the 20, and a decrement operator to generate the 19. | CO1 | 6 |
| c. | Explain data abstraction and polymorphism with real time examples. | CO1 | 8 |
| (OR) | | | | |
| 2. | a. | Demonstrate the usage of any four arithematic operators in C++. | CO1 | 8 |
| b. | Differentiate the logical operator && and bitwise operator &. | CO1 | 8 |
| c. | Explain encapsulation with example. | CO1 | 4 |
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| 3. | a. | Differentiate while loop and do while loop with sample code. | CO1 | 6 |
|  | b. | Illustrate the usage of break and continue. | CO1 | 8 |
|  | c. | Define inline function with sample code. | CO1 | 6 |
| (OR) | | | | |
| 4. | a. | Examine the files, *Test.cpp* and *Second.cpp*. Use appropriate storage class to access the global variable, i of *Test.cpp* from *Second.cpp*.   |  |  | | --- | --- | | **Test.cpp**  #include <iostream>  using namespace std;  inti = 10;  int main() {  //write declaration for fun()  fun();  return 0;  } | **Second.cpp**  #include <iostream>  using namespace std;  void fun(){  //write declaration for i  cout<<i<<endl;  } | | CO1 | 5 |
|  | b. | Demonstrate the usage of local static variable. | CO2 | 10 |
|  | c. | Examine the following code.  #include <iostream>  using namespace std;  void fun(int data){  data++;  }  int main() {  intmyData = 10;  fun(myData);  cout<<myData<<endl;  return 0;  }  Modify this code which reflects the updation of data in myData. | CO2 | 5 |
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| 5. | a. | Explain any two types of constructors with sample code. | CO1 | 10 |
|  | b. | Demonstrate the usage of constant object with necessary code. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Write a statement that declares a two-dimensional array of type int and initializes the first subarray to 52, 27, 83; the second to 94, 73, 49; and the third to 3, 6, 1. Display the two-dimensional using for/while loop. | CO1 | 10 |
|  | b. | Write the necessary code to create an array of countries where each element of country represents a state. Each state must be represented as an array of districts, where each district should be represented as array of characters. | CO1 | 10 |
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| 7. | a. | Illustrate multi-level inheritance and multiple inheritance with sample code. | CO5 | 10 |
|  | b. | Explain unary operator overloading with sample code. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Write necessary code to create of an array of pointers to strings representing the days of the week. Display the days using pointer notation. | CO1 | 10 |
|  | b. | Demonstrate the usage of new and delete operators in C++. | CO2 | 10 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Examine the following code and edit only in class to fix error, if any.  #include <iostream>  using namespace std;  class Test{  private:  void myFun(){  cout<<"I am always hidden from outside";  }  };  void cool(){  Test t;  t.myFun();  }  int main() {  cool();  return 0;  } | CO2 | 6 |
|  | b. | Explain function template with sample code. | CO4 | 8 |
|  | c. | Write necessary code in the following code snippet to read first word from input text file and display the same.  #include <iostream>  #include<fstream>  using namespace std;  int main() {  ifstream is("/Users/bright/Desktop/myfile.txt");  string data;  //*read first word from input file*  //*display the word*  is.close();  return 0;  } | CO6 | 6 |