|  | Pimpri Chinchwad Education Trust’s  **Pimpri Chinchwad College of Engineering**  An Autonomous Institute  (Permanently affiliated to Savitribai Phule Pune University) | | | | | | | | | SET – I | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SEMESTER - V | | |
| **End Term Examination** | | | | | | | | | | | | |
| **Third Year B. Tech. (ME/ EnTC)**  **[Open Elective-II] Object Oriented Programming (BIT5601)**  **Odd Semester (2022-23)** | | | | | | | | | | | | |
| ***Total No. of Questions-6*** | | | | | ***Total No. of Printed Pages-02*** | | | | | | | |
| ***[Time: 2 Hr. 30 min.]*** | | | | | ***[Max. Marks: 80]*** | | | | | | | |
|  | | ***PRN*** |  |  |  |  |  |  |  | |  |  |

**Instructions:**

**IMP: Verify that you have received a question paper with correct course, code, branch etc.**

**i. All questions are compulsory.**

**ii. Assume suitable data wherever necessary.**

**iii. Neat labelled diagrams must be drawn wherever necessary.**

**iv. Figure to right indicates full marks.**

**v. Use of a non-programmable calculator is allowed.**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Marks** | **CO No.** |
| **Q.1** | **Attempt any one** | **5** |  |
| **A** | Illustrate the difference between Inheritance and Polymorphism with suitable example. | **5** | CO1 |
| **B** | Write down any one type of Constructor with suitable examples. | **5** |
|  |  |  |
| **Q.2** | **Attempt any one** | **5** | CO2 |
| **A** | Use the concept of inline function in suitable example. | **5** |
| **B** | Apply function overloading to suitable example. | **5** |
|  |  |  |  |
| **Q.3** | **Attempt any two** | **10** | CO3 |
| **A** | Demonstrate C++ program to show relational operator overloading. | **5** |
| **B** | Demonstrate C++ program to show Counter using Overloading unary operator as a Member function. | **5** |
| **C** | Demonstrate rules of operator overloading. Name the operator that cannot be overloaded in C++. | **5** |
|  |  |  |  |
| **Q.4** | **Attempt any four** | **20** | CO4 |
| **A** | Use the concept of Virtual Base class with suitable example. | **5** |
| **B** | Demonstrate the concept of Method Overriding with suitable example. | **5** |
| **C** | Demonstrate C++ program to demonstrate Multiple inheritance. | **5** |
| **D** | Illustrate the member accessibility (Visibility specifier) of inheritance function in CPP with suitable example. | **5** |
| **E** | Write a CPP program to create a class account that stores student name , roll number and class. Derive the class library make it more specific to their requirement. Include necessary member function in order to achieve the following tasks:  a. accept and display student details  b. issue book from library. | **5** |
|  |  |  |
| **Q.5** | **Attempt any four** | **20** | CO5 |
| **A** | Show the concept of virtual constructor with suitable example. | **5** |
| **B** | Demonstrate the concept of abstract class with suitable example. | **5** |
| **C** | Apply the concept of this pointer with suitable example. | **5** |
| **D** | Demonstrate use of pointer to object of class. | **5** |
| **E** | Write a program in CPP that swaps the private data values of two objects of the same class types using the concept of pointers. | **5** |
|  |  |  |  |
| **Q.6** | **Attempt any four** | **20** | CO6 |
| **A** | Illustrate the Rethrowing exception with the help of suitable example. | **5** |
| **B** | Write a program to illustrate the application of try- catch statement. | **5** |
| **C** | Illustrate the exception handling mechanism with the help of suitable example. | **5** |
| **D** | Write a program that demonstrates how certain exception types are not allowed to be thrown. | **5** |
| **E** | Demonstrate with the help of an example exception with arguments. | **5** |

**\*\*\*\* End of Question Paper\*\*\*\***