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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **14CS2035** | **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. | Elaborate the fundamental characteristics of Object oriented programming with real time examples. | CO1 | 15 |
| b. | Write a C++ program to find the sum of ‘n’ numbers. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Illustrate arithmetic and relational operators with necessary examples. | CO1 | 10 |
| b. | Create a structure ‘employee’ with it’s data members: empid (data type: char[]), salary (data type: long). Prompt the user to fill in this data for ten employees, and then display the information. | CO2 | 10 |
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| 3. | a. | Create a class to represent an item in a super market with the following members   * Item code, Item Name, price, quantity, discount   Define a parameterized constructor to initialize the members.  Also define Member functions to read and print the data. | CO2 | 12 |
| b. | Illustrate function overloading with an example. | CO2 | 8 |
| (OR) | | | | |
| 4. | a. | Develop a C++ program to sort array elements in ascending order. | CO1 | 8 |
| b. | List any four string functions with it’s syntax and examples. | CO2 | 4 |
| c. | What do you mean by static class data? Illustrate with an example. | CO2 | 8 |
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| 5. |  | Discuss about various types of inheritance with appropriate examples. | CO3 | 20 |
| (OR) | | | | |
| 6. | a. | What do you mean by const member functions in a class? Explain with proper example. | CO2 | 8 |
| b. | List any two operators that cannot be overloaded. | CO2 | 2 |
| c. | Illustrate various looping statements used in OOP with an example. | CO1 | 6 |
| d. | Demonstrate the concept of “Call by reference” with an example program. | CO2 | 4 |
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| 7. |  | Write a C++ program to overload a binary operator ‘+’ with proper example. | CO2 | 20 |
| (OR) | | | | |
| 8. | a. | What is virtual function? Illustrate the use of virtual function with an example. | CO3 | 10 |
| b. | Discuss about friend functions with an example. | CO3 | 10 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Elaborate the concept of function templates with an example. | CO3 | 14 |
| b. | How do you write an object into the file? Illustrate the same with an example. | CO2 | 6 |