Jaypee University of Engineering and Technology, Guna
Department of Computer Science and Engineering

Object Oriented Programming Lab (14B17CI371)

Lab Exercise-7 **Date 06/09/16**

[Imp Note:All the programs must be written in C++ with distinguished variable names. If any kind of plagiarism is observed, the punctuality marks (10) will be awarded by zero.]

1. Suppose you have to create inventory to maintain books that are being sold at the JUET book shop. The list includes details such as author, title, price, publisher and stock position. Whenever a customer wants a book, the sales person inputs the title and author and the system searches the list and displays whether it is available or not. If it is not, an appropriate message is displayed. If it is, then the system displays the book details and requests for the number of copies required. If the requested copies are available, the total cost of the requested copies is displayed; otherwise "Required copies not in stock" is displayed. Design a system using a class called books with suitable member functions and constructors. **Use new operator in constructors to allocate memory space required at run time.**

2. Write a program to find the value of "e" in the following series:

$$e = 1 + \frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \ldots\ldots\ldots\ldots\ldots \text{upto acc} = 0.0001$$

3. Using the concepts of pointers write a function that swaps the private data values of two objects of the same class type.

4. The annual examination results of 100 students are tabulated as follows:

Roll No.	Subject 1	Subject 2	Subject 3
.	.	.	.
.	.	.	.
.	.	.	.

Write a program to read the data and determine the following:

a) Total marks obtained by each student.

b) The highest marks in each subject and the Roll No. of the students who secured it.

c) The student who obtained the highest total marks.

5. Write a program which reads a text from the keyboard and displays the following information on the screen in two columns:

- Number of lines
- Number of words
- Number of characters

Strings should be left-justified and numbers should be right-justified in a suitable field width.