

LOVELY PROFESSIONAL UNIVERSITY

Academic Task No. 2 **Group 1**

School: School of Computer Science and Engineering **Name of the faculty member:** Shilpa Sharma

Course Code: CSE202

Course Title: Object Oriented Programming

Program: B.Tech (CSE)

Term: 2

Max. Marks: 30

Is Rubric Applicable: NA

Date of Allotment: 04/April/2022

Date of Submission: 10/April/2022

Important Guidelines:

1. All questions in this Academic Task are compulsory.
2. It is mandatory to attempt all questions of the assignment in your own handwriting on A4 size sheets/pages with a blue colour ink pen. Any other mode of attempt (typed or printed codes or table) except hand written/drawn will not be accepted/considered as valid submission(s) under any circumstances.
3. Every attempted sheet/page should carry clear details of student such as Name, Registration number, Roll number, Question number and Page number. The page numbers should be written clearly on the bottom of every attempted sheet in a prescribed format as: for page 1; **Page 1 of 4**, for page 2; **Page 2 of 4**, for page 3; **Page 3 of 4** and for page 4; **Page 4 of 4**, in case your assignment/document is of 4 pages.
4. After attempting the answer(s), student needs to take photograph of each of these answer sheets/pages and needs to convert the **jpeg** format images into a sequential single **pdf** format document (can be done with many free online available converters).
5. This PDF file should be uploaded onto the UMS interface on or before the last date of the submission.
6. **Refrain from indulging into plagiarism as copy cases will be marked zero.**

Q1: Write a program to take input for n book records from user and write those book records in a file named: "record", whose price is less than INR 500 . Program should also perform random access in the file, after taking input for a particular record number to read and it should also perform random record overwriting after taking input of new record and the record number to overwrite. After overwriting record, display all records on the screen [Attributes of book: Book_id, Book_price, Book_name, Book_author_name] [10 Marks]

Q2: Write a program to overload operators in the same program by writing suitable operator friend functions for following expression:

$O7 = ((O1 \geq O2) + (O3 \&\& O4) * (O5 < O6))$ [Here $O1, O2, O3, O4, O5, O6$ and $O7$ are objects of a class "overloading", and this class is having one integer data member] [10 Marks]

Q3: Write a program to perform class to basic conversion[Such as: Class is: Triangle with data members base and height(float), and basic type is float(area of triangle)]. [5 Marks]

Q4: Discuss various applications of Initializer List with the help of suitable examples [5 Marks]

Academic Task No. 2 **Group 2**

Q1: Write a program to take input for n number of doctor records and write records of all cardiologists in a file named: "record1". Also write records of all those doctors in another file named: "record2" who are taking salary more than INR 80,000. After writing records in both files, merge their contents in another file: "finalrecord" and read all records of "finalrecord" file and display on screen. [Attributes of doctor: doc_id, doc_name, doc_specialization, doc_salary] [10 Marks]

Q2: Write a program to overload operators in the same program by writing suitable operator member functions for following expression:

$O7 = ((O1 \% O2) > (O3 \parallel O4) - (O5 > O6))$ [Here O1,O2,O3,O4,O5,O6 and O7 are objects of a class "overloading", and this class is having one integer data member] [10 Marks]

Q3: Write a program to perform basic to class conversion [Such as there is a class named: "conversion" with data members: feet and inches (both int)] Convert basic type(int) height in terms of total number of inches into equivalent feet and inches (class type) and display output on screen. [5 Marks]

Q4: Discuss constructors with default arguments and constructor overloading with the help of suitable examples. [5 Marks]