**CA2CRP02-Software Lab II (Core)**

Software Lab: 5 hrs. per week

Credits:2

1. **SQL Commands (2 hrs. per week)**
   1. Data definition commands - CREATE, ALTER, DROP, Adding Constraints Primary key, foreign key, unique key, check, not null.
   2. Basic SQL queries INSERT, SELECT, DELETE, UPDATE, Using multiple tables, ordering of rows using ORDER BY option, Set operations using UNION, EXCEPT, INTERSECT, Substring Comparison using LIKE operator, BETWEEN operator.
   3. Complex Queries Nested Queries, EXISTS and UNIQUE/DISTINCT functions, NULL values, Renaming of attributes and Joining of tables, Aggregate functions and grouping.
   4. Managing views, Simple stored procedures.
   5. Data Control commands - Access Control and Privilege commands.
2. **Object Oriented Programming using C++ (3 hrs. per week)** 
   1. Programs based on default arguments, function overloading.
   2. Programs based on array of objects, friend functions, passing objects as arguments to function.
   3. Programs based on operator overloading (binary, unary) using member functions and friend functions.
   4. Programs based on constructors, different types of constructors.
   5. Programs based on inheritance, different types of inheritance.

**Scheme of Evaluation for software lab II external is as follows:**

(There will be two questions; the first from DBMS and second from C++) **Division of Marks (Practical - 3 hours External)**

First program - questions from DBMS **- 25 marks**

1. Logic – 10 marks

2.Successful compilation – 8 marks

3. Result – 7 marks

Second program – questions from Object Oriented Programming using C++ **- 35 marks**

1. Logic – 20 marks

2.Successful compilation –10 marks

3. Result – 5 marks

Viva Voce **- 10 marks**

Lab Record **- 10 marks**

( DBMS -Minimum of 10 Programs

C++ -Minimum: of 15 Programs)

**Total Marks - 80 marks**