			Group A
Assignment			
1			Study of Open Source Relational Databases : MySQL
2			Design and Develop SQL DDL statements which demonstrate the use of SQL objects such as Table, View, Index, Sequence, Synonym
	a		Create Tables
			Client_Master
			Product_Master
			Salesman_Master
			Sales_Order
			Sales_Order_Details
	b		Insert the data into their respective tables
	c		Exercise on altering the table structure
		1	Add column called 'Telephone' of data type 'number' and size='10' to the Client_Master table.
		2	Change the size of SellPrice column in Product_Master to 10,2.
		3	Destroy the table Client_Master along with its data.
		4	Change the name of the Salesman_master to Sman_mast.
	d		Write appropriate SQL statements for the following:
		1	Create a simple index idx_Prod on product cost price from the Product_Master table.
		2	Create view on OrderNo, OrderDate, OrderStatus of the sales_Order table and productNo, ProductRate and QtyOrdered of Sales_Order_Details.
		3	Create a sequence inv_seq with the following parameters, increment by 3, cache 4 and which generates the number from 1 to 9999 in acending order.
3			Consider database created in assignment 1 to design SQL queries using SQL DML statements: Insert, Select, Update, Delete with operators, functions, and set operator.
	a		Exercise on retrieving records from a table
		1	Find the names of all clients.
		2	Retrieve the contents of the Client_Master table.
		3	Retrieve the list of names, city and the state of all the clients.
		4	List the various products available from the Product_Master table.
		5	List all the clients who are located in Mumbai.
		6	Find the names of salesmen who have a salary equal to Rs. 3000.
	b		Exercise on updating records in a table:
		1	Change the city of ClientNo 'C00005' to 'Bangalore'
		2	Change the BalDue of ClientNo 'C00001' to Rs. 1000.
		3	Change the cost price of 'Trousers' to Rs. 950.00.
		4	Change the city of the salesman to Pune.
	c		Exercise on deleting records in a table:
		1	Delete all salesmen from the Salesman_Master whose salaries are equal to Rs. 3500.
		2	Delete all products from Product_Master where the quantity on hand is equal to 100.
		3	Delete from Client_Master where the column state holds the value 'Tamil nadu'.
	d		Perform the following computations on table data:
		1	List the names of all clients having 'a' as the second letter in their names.
		2	List the clients who stay in a city whose First letter is 'M'.
		3	List all clients who stay in 'Bangalore' or 'Mangalore'.
		4	List all the clients whose Baldue is greater than value 10000.
		5	List all information from the Sales_Order table for orders placed in the month of June.
		6	List the order information for ClientNo 'C00001' and 'C00002'.
		7	List the products whose selling price is greather than 500 and less than or equal to 750.
		8	List products whose selling price is more than 500 and less than or equal to 750.
		9	List products whose selling price is more than 500. Calculate a new selling price as, original selling price *.15. Rename the new column in the output of the above query as new_price.
		10	List the names, city and state of clients who are not in the state of 'Maharastra'.
		11	Count the total number of all the products.
		12	Calculate the average price of all the products.

		13	Determine the maximum and minimum product prices. Rename the output as max_price and min_price respectively.
		14	Count the number of products having price less than or equal to 500.
		15	list all the products whose QtyonHand is less than reorder level.
	e		Exercise on Date Manupulation
		1	List the order number and day on which clients placed their order.
		2	List the month(in alphabets) and date when the orders must be delivered.
		3	List the OrderDate in the format 'DD-MM-YY'. e.g. 12-February-02.
		4	List the date, 15 days after today's date.
4			Design at least 10 SQL queries for suitable database application using SQL DML statements: all types of Join, Sub-Query and View.
	a		Exercses on Joins and Correlations:
		1	Find out the products, which have been sold to ' Ivan Bayross'
		2	Find out the Products and their quantities that will have to be delivered in the current month.
		3	List the ProductNo and description of constantly sold (i.e. rapidly moving) products.
		4	Find the names of clients who have purchased 'Trousers'.
		5	List the products and orders from customers who have ordered less than 5 units of 'Pull Overs'.
		6	Find the products and their quantities for the orders placed by 'Ivan Byross' and 'Mamata Muzumdar'.
		7	Find the products and their quantities for the orders placed by ClientNo'C00001'and 'C00002'.
	b		Exercise on subqueries
		1	Find the ProductNo and description of non- moving products i.e. products not being sold.
		2	List the customer Name, Address1, Address2, City and PinCode for the client who has placed order no 'O19001'.
		3	List the client names that have placed orders before the month of May'02.
		4	List if the product 'Lycra Top' has been ordered by any client and print the Client_no, name to whom it was sold.
		5	List the names of clients who have placed orders worth Rs. 10000 or more.
5			Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory. Write a PL/SQL block of code for the following requirements:- Schema:
			1. Borrower(Roll_no, Name, DateofIssue, NameofBook, Status)
			2. Fine(Roll_no,Date,Amt)
	a		Accept roll_no & name of book from user.
	b		Check the number of days (from date of issue), if days are between 15 to 30 then fine amount will be Rs 5per day.
	c		If no. of days>30, per day fine will be Rs 50 per day & for days less than 30, Rs. 5 per day.
	d		After submitting the book, status will change from I to R.
	e		If condition of fine is true, then details will be stored into fine table.
6			Cursors: (All types: Implicit, Explicit, Cursor FOR Loop, Parameterized Cursor) Write a PL/SQL block of code using parameterized Cursor, that will merge the data available in the newly created table N_RollCall with the data available in the table O_RollCall. If the data in the first table already exist in the second table then that data should be skipped.
7			PL/SQL Stored Procedure and Stored Function. Write a Stored Procedure namely proc_Grade for the categorization of student.if marks scored by students in examination is <=1500 and marks>=990 then student will be placed in distinction category if marks scored are between 989 and900 category is first class, if marks 899 and 825 category is Higher Second Class Write a PL/SQL block for using procedure created with above requirement.
			1. Stud_Marks(name, total_marks)
			2. Result(Roll,Name, Class)

8			Database Trigger (All Types: Row level and Statement level triggers, Before and After Triggers). Write a database trigger on Library table. The System should keep track of the records that are being updated or deleted. The old value of updated or deleted records should be added in Library_Audit table.
			Group B Large Scale Databases
1			Study of Open Sourse NOSQL Database: MongoDB (Installation, Basic CRUD operations, Execution)
2			Design and Develop MongoDB Queries using CRUD operations. (Use CRUD operations, SAVE method, logical operators)
	a		Create a data base table for Students (rollno, sname, sadd,city,phone,birthdate)
	b		Change the city of the student having rollno '103' to Pune.
	c		Display all the records of Students.
	d		Find the record of student who lived in 'Pune' or 'Mumbai'.
	e		Find the record of student who lived in 'Pune' and his name is 'Ram'.
3			Create the colloction Books in mongoDb having the following fields TITLE,DESCRIPTION,BY,URL,TAGS AND LIKES .
	a		Implement the following Aggregation and Indexing Quries
			1. Find the number of books published by Jhon.
			2. Find the books which have minimum likes and maximum likes published by Jhon.
			3. Find the average number of likes of the book published by Jhon.
			4. Find the first and last book published by the Jhon.
			5. Create an Index on author name.
			6. Display the books published by Jhon and check if it uses the index which we have created.
4			Create the following schema in mongo DB
			Product(Prod_id, Price , Status)

Prod_id	Price	Status
A1	400	A
B1	300	D
A1	200	C
C1	200	C
B1	700	A
B1	800	A

	a		Implement the following using Map Reduce function
		1	Find the sum of price of each product whose status is A.
		2	Find the average price of each product.
		3	Find the min price of each product.
		4	Find the max price of each product whose status is C.
5			Create simple objects and array objects using JSON.
			Group C Mini Project : Database Project Life Cycle
1			Implement MYSQL/Oracle database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit,) using ODBC/JDBC.
2			Write a program to implement MogoDB database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit etc.) using ODBC/JDBC.
3			Using the database concepts covered in Part-I & Part-II & connectivity concepts covered in Part C, students in group are expected to design and develop database application with following details:
			Requirement Gathering and Scope finalization
	a		Database Analysis and Design:
			1. Design Entity Relationship Model, Relational Model, Database Normalization
	b		Implementation :

			1. Front End : Java/Perl/PHP/Python/Ruby/.net
			2. Backend : MongoDB/MYSQL/Oracle
			3. Database Connectivity : ODBC/JDBC
	c		Testing : Data Validation
			Group of students should submit the Project Report which will be consist of documentation related to different phases of Software Development Life Cycle: Title of the Project, Abstract, Introduction, scope, Requirements, Data Modeling features, Data Dictionary, Relational Database Design, Database Normalization, Graphical User Interface, Source Code, Testing document, Conclusion.