GL BAJAJ
Institute of Management & Research. PGDM Institute
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GREATER NOIDA   **FIND YOUR SPARK**
(Approved by A.I.C.T.E., Ministry of HRD, Govt. of India)

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306
PGDM/PGDM (General) -2021-23
DATABASE CONCEPTS AND APPLICATIONS (TERM- IV)
Academic Session: 2022-23

Subject Name: **Database Concepts and Applications**	Time: **02:30 Hrs.**
Sub. Code: **PGIT41**	Max Marks: **40**

INSTRUCTIONS
1. **Use ORACLE/SQL and MONGODB on separate Laptops/Desktops.**
2. **Give your complete details below and write/type down all solutions on this sheet only.**
3. **After attempting all the question, Student are supposed to save the file using his/her full name and Admission No/Roll Number for example (kapilmohangarg_PGDM22123). MAKE SURE YOU SUBMIT THE RIGHT/CORRECT FILE**
4. **Finally, students are supposed to submit the soft copies using a PD. Each student to carry his/ her own Pen Drive (PD). Sharing of PD for submitting final ANSWER / SOLUTION is not allowed.**
5. **COPY of content/Use of others PD would be considered as UFM.**
6. **Use of Mobile phones / Smart watch / Calculators / Wi-Fi hotspot / Browser / WhatsApp or similar apps / Earphones is NOT allowed in any way.**
7. **Any required data not explicitly given, may be suitably assumed and stated**

STUDENT'S NAME	
ADMISSION NO.	
ROLL NO.	
SECTION	
COLLEGE / UNIV MAIL ID	
SUBJECT NAME	
SUBJECT CODE	
BATCH	
SUBMISSION DATE	

Question one is Compulsory. Do any 4 Questions from the rest.   **[8 Marks x 5=40 Marks]**

1.		With respect to EMP, DEPT table (Appendix-I), Write an SQL query to…	**CO4**
	(a)	Compile the name of employees working in Chicago.	**2 Marks**
	(b)	Show the name of Departments of employees having Salaries above 2900	**2 Marks**
	(c)	The use of outer Join	**2 Marks**
	(d)	Show location of employees who are either Salesmen or Analysts	**2 Marks**
2.			
	(a)	Describe data independence? Differentiate logical and physical data independence	**CO1** **4 Marks**

	(b)	State various Data Definition Language (DDL) and Data Manipulation Language commands (DML) in SQL.	**CO1** **4 Marks**
			CO3
3.		The People's Bank offers different types of accounts: Loan, Checking, Premium Saving, Daily Interest Saving and Money Market. It operates a number of branches and a client of the bank can have multiple accounts. Accounts can be joint, i.e., more than one client may operate a given account. - Identify the possible entities for the above case and show their attributes. - What relationships exist among these entities?	**8 Marks**
4.			
	(a)	Discuss the difference between equi join, non-equi join and self join	**CO3** **4 Marks**
	(b)	Explain Big Data. Mention some tools to store and process Big Data along with the utility of these tools.	**CO1** **4 Marks**
5.			
	(a)	Concurrency control, give reasons for considering locking as one of pessimistic Concurrency Control techniques	**CO2** **4 Marks**

	(b)	**Mention some BSON datatypes that are different from JSON data types.**	CO2 4 Marks
6.			
	(a)	**State with illustration, the functions that are used in Mongo shell for updating a document.**	CO2 4 Marks
	(b)	**Write down BSON functions with illustration of each to find a single or multiple documents in a collection "NEW" for database "ABC"**	CO4 4 Marks

APPENDIX-I   **Table: DEPT**

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

Table: EMP

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800	-	20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975	-	20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10
7788	SCOTT	ANALYST	7566	19-APR-87	3000	-	20
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100	-	20
7900	JAMES	CLERK	7698	03-DEC-81	950	-	30
7902	FORD	ANALYST	7566	03-DEC-81	3000	-	20
7934	MILLER	CLERK	7782	23-JAN-82	1300	-	10