Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj
Master of Science (Computer Applications & Information Technology)
Semester: IV

Paper Code: CCCS416	Total Credit : 04
Title of Paper: Practical Based on **CCCS414 and Elective Courses**	**Total Marks :** 70
	Time : 3 Hrs

1. The instructor shall formulate appropriate laboratory exercises which can result into good understanding of following PL/SQL concepts:
   a. Block structure (three practicals)
   b. Variables and data types (three practicals)
   c. Operators (three practicals)
   d. Control structures (three practicals)
   e. Procedures and functions (five practicals)
   f. Cursors (three practicals)
   g. Triggers (three practicals)

2. Hands-on understanding of any one distributed database (preferably Apache HBase): installation, understanding basic functions, study of algorithms used and applications. (At the end of the student shall write down the findings in the journal.)

3. The instructor shall formulate appropriate laboratory exercises which can result into good understanding of following TCL commands on Oracle database:
   a. Commit
   b. Rollback
   c. Savepoint

4. To understand the architecture and design issues in following:
   a. Multimedia databases
   b. Mobile databases
   c. Digital libraries
   d. Spatial databases
   e. Temporal databases

5. To get hands-on experience with NoSQL databases (e.g. HBase, MongoDB)

6. To get hands-on experience with In-memory databases (e.g. Aerospike)

Elective
Heap
1. Finding k-smallest element in mean-Heap.
2. Implement Queue using Heap.
3. Union of two given Heaps.
4. Given *n* lists of sorted integers, find the smallest range that includes at least one number from each of the *n* lists.
Sorting and Searching
5. Implementing sorting and searching algorithms (all algorithms as per syllabus).

Graphs
6. Count simple paths for given graph G has simple paths from source S to destination D? Assume that graph is represented using adjacent matrix.
7. Count the number of connected components of graph G which is represented using adjacent matrix.
8. Finding depth of directed acyclic graph (DAG).

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Paper Code : CCCS416		Total Credit : 4 Total Marks : 70
Title of Paper: Practical Based on CCCS414 and Elective Courses		Time : 3 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Viva – Voce	20	70
	Q.1 (B) Practical	50	