

**CSE4252**

**DATABASES FOR BIG DATA**

**LABORATORY ASSIGNMENTS**



**DEPARTMENT OF COMPUTER SCIENCE**

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### **1. Assignment (2): Querying into Collections**

## Assignment (2)

Objective of this Assignment:

To solve simple queries using Mongo DB operators, Aggregate functions and Scalar functions over tables based on assignment 1.

Questions:

1. 1. Write the NOSQL Expressions for the following queries using suitable Mongo DB operators.
  - a) Display the Course\_ids, Titles and Credits of course that are offered in any of the departments namely: Physics, Music, Finance and Biology.
  - b) Display records of the instructors whose name starts with “K” and who get salary more than 65000.
  - c) Display name, department, gross salary and net salary of instructors with 105% DA, 20% HRA, 30% IT. (gross salary = salary + DA + HRA, net salary = gross salary – IT).
  - d) Display records of the Instructors with salary range 60000 to 80000.
  - e) Display the records of the instructors having the second letter in their name as ‘r’.
  - f) Display the names of the instructors of Comp.Sci. Department in the descending order of their salary.
  - g) Update all records of Instructor table with a salary hike of 15%.
  - h) Update the records with a salary hike of 3% for Comp.Sci. Dept instructors having salary less than 70000.
  - i) Display the annual salary of each instructor.
  - j) Update the title of the course having title 'Game Design' to 'Game Theory'.
  - k) Delete the instructor records of History department.
  - ✓ l) Delete the course records of the courses having course\_id starting with 'BIO'
2. Write the MongoDB Expressions for the following queries using suitable SQL aggregate function.

- ✓ a) Display the Avg. salary of instructors of Physics department.
- b) Display the Dept\_ name and Average salary paid to instructor of each department
- c) Display the ID, Name & Department of the instructor drawing the highest salary.
- d) Display the number of instructors available in Comp. Sci. Department.
- ✓ e) Display the total credits of all courses offered in Comp.Sci. Department.
- f) Display the number of instructors and total salary drawn by Physics and Comp.Sci. departments.
- g) Display the total credits of Comp.Sci. and Biology departments from course table.
- h) Display building wise total budget values.
- i) Display the number of instructors of each department.
- j) Display the number of instructors of each department sorted in high to low.
- k) Display the number of courses offered semester wise.
- l) Display the name of departments having number of instructors less than 2;
- m) List the number of instructors of each department having 2 or more than 2 instructors except Finance department, sorted in high to low order of their number.
- n) Display the Dept\_name that has paid total salary more than 50000.
- o) Display the total budget for the building built by Watson.
- p) Display the highest salary of the instructor of Comp.Sci. Department.

