

# MODERN DATABASE SYSTEM

## LAB – 11(Mongo db)

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### Question 1 :

```
> db.students.find({"name.first":"Sam", year:1995});
{ "_id" : "sam", "name" : { "first" : "Sam", "last" : "Peter" }, "year" : 1995, "courses" : [
"php", "python", "java" ]
```

### Question 2 :

```
db.courses.find({ $or: [
  { "professor.first": "John", "professor.last": "Peter" },
  { "professor.first": "Peter", "professor.last": "John" }
]});
{ "_id" : "php", "title" : "PHP Programming", "year" : 2007, "professor" : { "first" : "John",
"last" : "Peter" }, "rating" : 53, "students" : [ "arun", "sam", "sylvia", "divya", "hazel" ],
"departments" : [ "cs", "ca" ], "campus" : [ "Tricy", "Singapore" ]
```

### Question 3:

```
db.students.find({"name.first": "Sam",courses: "php"}, { "name": 1, "_id": 0});
{ "name" : { "first" : "Sam", "last" : "Peter" } }
```

### Question 4:

```
db.courses.find(year: { $gte: 2000, $lte: 2005 }, "professor": { $exists: true } }, {
"_id":1}).sort({"rating": -1, "year": 1});
{ "_id" : "os" }
{ "_id" : "network" }
```

### Question 5 :

```
db.students.find({ courses: { $in: ["java", "php"] } }, { "_id": 1 });

{ "_id" : " arun" }
{ "_id" : " sam" }
{ "_id" : " anna" }
{ "_id" : " slyvia" }
{ "_id" : " benita" }
```

### Question 6 :

```
db.students.aggregate([ { $match: { courses: { $all: ["java", "php"] } } }, { $project: {
_id: 1 } } ] );

{ "_id" : " arun" }
{ "_id" : " sam" }

db.students.find({ courses: "java", { "_id": 1 } }).toArray().filter(student => { return
db.students.findOne({ _id: student._id, courses: "php" }); });

[ { "_id" : " arun" }, { "_id" : " sam" } ]
```

### Question 7 :

```
db.courses.aggregate( { $match: { $or: [ { "title.tamil": "Python Programming" }, {
"title.en": "Python Programming" } ] } }, { $project: { _id: 0, title: 1 } } ] );

{ "title" : { "tamil" : python programming , "en" : "python programming" } }
```

### Question 8 :

```
db.courses.find( { "awards.type": "National Award", "awards.year": 2000 }, { "_id": 1,
"awards": 1 } );

{ "_id": "graphics", "awards" : [ { "type": "National Award" "year" : 1996 }, { "type":
"International Award", "category": "Core CS", "year": 2005 } ] }
```

### Question : 9

```
db.courses.find( { $or: [ { departments: { $all: ["cs", "ca"] } } }, { rating: { $gte: 80 }
} ] }, { "_id": 1, "campus": { $slice: 2 } } );

{ "_id": "java", "campus": [ "Trichy", "Dubai" ] }
{ "_id": "php", "campus": [ "Tricy", "Singapore" ] }
{ "_id": "os", "campus": [ "Trichy", "Sharjah" ] }
```

```
{ "_id" : "graphics" }
```