Students are advised to take care of QUESTIONS DEGREES

Q1. (20 Deg)

A sample of Node JS server code is show below. Give detailed description of the function of each line of the code:

```
var express = require('express')
  , routes = require('./routes');
var monogo = require("mongodb");
var server = new monogo.Server("localhost", 27017, {});
var objectId = monogo.ObjectID;
var db = new monogo.Db('students', server, {
w : 1
});
var app = module.exports = express.createServer();

app.configure(function(){
  app.set('views', __dirname + '/views');
  app.set('view engine', 'jade');
  app.use(express.bodyParser());
  app.use(express.methodOverride());
  app.use(app.router);
  app.use(express.static(__dirname + '/public'));
});

app.configure('development', function(){
  app.use(express.errorHandler({ dumpExceptions: true, showStack: true }));
});

app.configure('production', function(){
  app.use(express.errorHandler());
});

app.get('/', function(req, res) {
      db.open(function(err, client) {
              var persons = new monogo.Collection(client, 'persons');
              persons.find().toArray(function(err, students) {
                      if (err) {
                              console.log(err);
                      } else {
                              res.render('listPersons', {
                                      layout : false,
                                      items : students
                              })
                      }
              db.close();
              });
      })
```

```
    });
    app.listen(3000);
    console.log("Express server listening on port 3000") ;
```

Q2. (20 Deg)

Mongo database engine is one of the powerful NoSQL database engine on the internet. The record structure is based on Binary Script Object Notation (BSON). If collection "Students" contains the following:

{fName:"Ahmed",lName:"Mohammad",bDate:"25/1/1999",stuID:2}

{fName:"Ali",lName:"Hassan",bDate:"2/12/1989",stuID:10}

{fName:" Mohammad",lName:"Karem",bDate:"25/1/1988",stuID:5}

1-What is the output of the following queries?
a) db. Students.find();
b) db. Students.findOne();
c) db. Students.find({bDate:"25/1/1988"})
d) db. Students.find({stuID:2},{lName:1})
e) db. Students.find({stuID:11},{lName:1})
f) db. Students.find({ stuID: { $gt: 0, $lt: 5 } },{lName:1, bDate :0})
g) db. Students.find({},{lName:1, bDate :0})

2- What is the UNIX command used to list the files in a directory?

3- There are many ways to create a file in UNIX. Mention three of them

Q3. (15 Deg)

Choose the correct answer:

1. chmod 700 p.txt is used to

    a) Give read, write and execute permissions to the group to which the file user belongs.
    b) Give read, write and execute permissions to the file user.

2. Is the mongodb case sensitive?

      a) True
      b) False

3. cd ~ is used to

      a) move to your home directory
      b) move one level down from the current directory

4. IS Node.js synchronous programming?

      a) True
      b) False

5. Where is the location of the static files in node application?

      a) views   folder
      b) public folder
      c) routes folder

6. How to show all collections of places database?

      a) show collections
      b) collections
      c) show dbs

7. pwd is used to

      a) display the current working directory
      b) display the current user

Q4. (15 Deg)

What these commands do?

1. mv   olddir   newdir
2. ls   -la
3. chmod   o+wx   testfile
4. grep   science   science.txt
5. wc   -l   science.txt
6. cat >> file1