**ADEKUNLE AJASIN UNIVERSITY, AKUNGBA-AKOKO**

**FACULTY OF SCIENCE**

**DEPARTMENT OF COMPUTER SCIENCE**

**2ND SEMESTER EXAMINATION – 2012/2013 SESSION**

**Course Title:** Application Package (using MS-ACCESS, SPSS & MySQL) **Course Code:**  CSC 424

**Course Unit:** 3 **Course Status:** Elective **Time:** 2½ hours

**Instruction:** Answer **Question 1** and **any other two (2) questions**

1a. i. These three (3) -> DDL, DML, and DCL looks familiar to you, but unfamiliar to many. In a very simple, coded, non-time consuming and logical manner, differentiate between these three (3) Structured Query Languages. (6mks)

ii. In MySQL and like many other database packages, there exist different data types that serve different purposes. Pick any four (4) of such data types and explain them. Back up with few line(s) of code. (4mks)

iii. In MySQL and unlike MS-Access, there exists a table definition called Table/Engine type. Not to stress you, highlight any three (3) of such engines and explain their use(s), relevance(s), major strength and perhaps, weaknesses in comparison to others. Back up with few line(s) of code. (6mks)

iv. With light coding illustration, differentiate between the following index types:

* Primary Key and Unique Key
* Index and Full-Text Index (4mks)

b. i. Differentiate between:

\* Ordinal and Nominal \* T-test and ANOVA \* Data View and Variable View

ii. Briefly explain the use of the following SPSS analysis commands:

\* Reliability Analysis \* Regression \* Correlation (6mks)

c. In MS-Access, the followings are some of the available data types:

\* Memo \* Look up Wizard \* AutoNumber \* Text

Explain their use. With your explanation, briefly design/describe a database table that consists of only four fields and make use of each of these stated four data types. Behold a prototype for your table design: (4mks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Data Type** | **Field Size** | **Caption** |
| Field 1 |  |  |  |
| Field 2 |  |  |  |
| Field 3 |  |  |  |
| Field 4 |  |  |  |

2. In the AVERS AAUA result portal, three (3) fields are germane and visible, but four (4) are indispensable for database creation in the result computation. The three (3) are Matric\_No, Score, and Grade. Note also that in this type of system, a course (e.g. CSC424) is taken/designed as a table.

a. As a lecturer handling 2 courses each in levels 100, 200, 300 and 400, Using MySQL syntax, code to design your own database that stores student performances in these courses. (4mks)

b. Now assuming you are an HOD, code to give permission to your exams officer to carry out the following privileges on the stated courses in (a):

\* DROP \* UPDATE \* ALTER \* SELECT (8mks)

c. Now, as an exam officer; code to practically carry out the given privileges to:

* DROP – drop a course in 200 and 400levels
* UPDATE all appearance of 0s in all level results to 40
* ALTER – all level course codes e.g. from CSC…. to COM….
* SELECT – view to report all operations done (8mks)

3a. ‘Ondo Gover-Histori System (OGHS)’ is an initiative by the Ondo Government to have a system that keeps track of the past and present governments of the state. The initiators therefore requested for database designers to help come up with a database design that actualizes this initiative. Using MySQL syntax, put in your entry/proposal by coding to design the needed database that captures the necessary files to keep track of the records of the past governors and their cabinet. (10mks)

b. From your coded/designed database, fires the following queries:

i. all past governors from 1999-till date

ii. all past governors that came from AKOKO

iii. all past commissioners of education that are 2nd Degree (Masters) holders

iv. all past commissioners that spent less than 4yrs in office

v. all past female commissioners

vi. all present commissioners and the governor (10mks)

4.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Date Cheque Issued** | **Amount Collected** | **Advance No** | **Staff Name** | **Due Date** | **Retirement Status** | **Balance** |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |

a. The table above shows a RETIREMENT REPORT Prototype of a CASH ADVANCE PAYMENT SYSTEM (CAPS), where Retirement Status is referred as R (Retired), NR (Not Yet Retired). As an expert in the field of database, code, using MySQL, the necessary files (tables) and fields to implement this system. (6mks)

**Assumptions**:

* It is assumed that, the above table is only showing the needed fields for a particular purpose and not necessarily all the needed fields for the database table(s).
* It is assumed that, the following retirement policy should be observed:

\*departmental cash advance are executed and retired 15days after issuance of cheque

\*faculty-based cash advance are executed and retired 25days after issuance of cheque

\*university-based cash advance are executed and retired 60days after issuance of cheque

b. From the files and fields created, output the following cash advance report status:

i. on faculty basis

ii. on staff/payee status basis – e.g. academic / non academic

iii. on cadre basis e.g. Senior / Junior

iv. on gender basis e.g. Male Staff / Female Staff (8mks)

c.

i. Without taking the assumptions into consideration, output your report such that it reports all outstanding.

ii. Taking the assumptions into play and testing for the retirement status (Retired – R, Not Yet Retired - NR, output your report accordingly. (6mks)