1st Sit COURSEWORK QUESTION PAPER: **Year Long 2019**

Module Code:	**CC6001NA**
Module Title:	**Advanced Database Systems Development**
Module Leader:	**Rohit Panday** (Islington College)

Coursework Type:	**Individual**
Coursework Weight:	This coursework accounts for **40%** of your total module grades.
Submission Date:	**Week 18**
When Coursework is given out:	**Week 8**
Submission Instructions:	Submit the following to College RTE department before the due date: • **Report in PDF Format** • **Project in ZIP file** - **Script File** - **Visual Studio Source Code**
Warning:	London Metropolitan University and Islington College takes Plagiarism seriously. Offenders will be dealt with sternly.

Plagiarism Notice

You are reminded that there exist regulations concerning plagiarism.

Extracts from University Regulations on Cheating, Plagiarism and Collusion

Section 2.3: “The following broad types of offence can be identified and are provided as indicative examples …..

(i) Cheating: including copying coursework.
(ii) Falsifying data in experimental results.
(iii) Personation, where a substitute takes an examination or test on behalf of the candidate. Both candidate and substitute may be guilty of an offence under these Regulations.
(iv) Bribery or attempted bribery of a person thought to have some influence on the candidate’s assessment.
(v) Collusion to present joint work as the work solely of one individual.
(vi) Plagiarism, where the work or ideas of another are presented as the candidate’s own.
(vii) Other conduct calculated to secure an advantage on assessment.
(viii) Assisting in any of the above.

Some notes on what this means for students:

(i) Copying another student's work is an offence, whether from a copy on paper or from a computer file, and in whatever form the intellectual property being copied takes, including text, mathematical notation and computer programs.
(ii) Taking extracts from published sources without attribution is an offence. To quote ideas, sometimes using extracts, is generally to be encouraged. Quoting ideas is achieved by stating an author's argument and attributing it, perhaps by quoting, immediately in the text, his or her name and year of publication, e.g. " e = mc2 (Einstein 1905)". A reference section at the end of your work should then list all such references in alphabetical order of authors' surnames. (There are variations on this referencing system which your tutors may prefer you to use.) If you wish to quote a paragraph or so from published work then indent the quotation on both left and right margins, using an italic font where practicable, and introduce the quotation with an attribution.

Further information in relation to the existing London Metropolitan University regulations concerning plagiarism can be obtained from http://www.londonmet.ac.uk/academic-regulations

Coursework

The coursework assignment is an individual assessment weighted 40% of the marks for the module. It is designed mainly to assess students' practical problem-solving skills and critical thinking/evaluation on the design and development of database systems. It requires the student to analyse, design and implement a web-based database application based on a given business case study. You are asked to provide a software solution as well as appropriate documentation detailing the design and implementation of the system.

1. Case Study

A Tour and Travel company is established to help customer for making their holiday incredible. The company have a number of staff. Each staff of the company have different roles such as receptionist, tour guide, travel agent etc. assigned by company but the company assign only one role to each staff. The company assigned multiple tour guide for a tour. There are number of tour package available in the company. A customer can take only one package at a time.

Your prototype of the system will be developed using Oracle SQL Developer Data Modeler and ASP.NET with C# (Visual Studio).

Figure 1. Example of Package Record

Package ID	Package Name	Destination	Total No of Days	Difficulty
LK25A	ABC	Annapurna Base Camp	7	Moderate
UI32A	Ghandruk	Ghandruk, Pokhara	4	Moderate
NB34G	Everest Short Trek	Lukla, Khumjung	4	Hard

Figure2. Example of Tracking Record.

Package Name: Ghandruk

Start date: 2018/Jan/05

End date: 2018/Jan/09

Tour Guide: Will Stark

Day	Travel Details	Activities	Status	Travel Mode	Difficulty Level
Day 1	Kathmandu to Pokhara	Driving from KTM to Pokhara Overnight stay in Hotel	Complete	Bus	Easy
Day 2	Pokhara to Ghandruk	Trek to Ghandruk. Explore the Ghandruk Village.	Complete	Bus/Walk	Hard
Day 3	Ghandruk to Pokhara	View the beautiful sunrise and Himalayas. Trek Down to Pokhara	Complete	Bus/Walk	Hard
Day 4	Pokhara to Kathmandu	Drive back to Pokhara	Remaining	Bus	Moderate

2. Requirements of the Coursework

Marks are awarded for producing a working and properly documented system that meets the requirements specified below as **deliverables**:

2.1 Contents Page

A list of sections/subsections of the document, including page numbers.

2.2 Normalisation

[15 Marks]

Produce a set of fully normalised tables for the system:

- You may use Figure 1 and Figure 2 as a starting point for normalisation.
- You may also add additional attributes where appropriate.
- Show clearly all the steps of normalisation, up to the 3rd normal form.
- Two separate normalization done showing correct transition between UNF to 3NF.
- Proper identification of Primary/Foreign Key, Repeating Groups, Partial Dependency and Transitive Dependency

2.3 E-R Model

[10 Marks]

Use *Oracle SQL Developer Data Modeler* to produce an Entity Relationship Diagram. The final ERD should be consistent with the outcome of your normalisation. Submit a copy of the ERD:

- Proper ERD of the textual description with proper entities and correct cardinality (entities must show all primary keys and foreign keys involved).
- Explanation of assumptions made in order to make the ERD (must show process to remove the duplication of entities(relations) from Relational Model, Normalization 1 and Normalization 2)

2.4 Data Dictionary

[5 Marks]

Use *Oracle SQL Developer Data Modeler* to produce a list of attributes for each entity. Submit a print-out copy of these lists:

- Data Dictionary must contain well defined Name of Tables, Attributes, Appropriate Data Type and Size of Attributes, Constraints of Each Attributes, Reference Tables and Attributes along with Example Data

2.5 Generation of Database

[3 Marks+ 4 Marks+ 3 Marks]

- Use *Oracle SQL Developer Data Modeler* to convert the E-R diagram into a set of database tables. Provide a print-out of the DDL script for generating the tables (relevant 'CREATE statements only).

- Use *Oracle SQL Developer* to populate these tables with suitable data values (using 'INSERT' statements), at least 5 rows for SETUPS and 10 rows for CONFIGURATION and TRANSACTION tables with proper screenshot.

- Provide a print-out of contents for all the tables (using 'SELECT' statements) with proper screenshot.

2.6 Implementation of Web-based Database Application

- Implementation of a web-based database application which includes the following webforms (web pages) using ASP.NET with C#:

  - **Basic Webforms:**

    [15 Marks]

    - Staff Details
    - Designation Details
    - Customer Details
    - Package Details
    - Tour Guide Details

    All these forms should facilitate input, update and delete of information.

  - **Complex Webforms:**

    [15 Marks]

    - ***Customer-Package Schedule Form*** (for any package, show details of the package and the details of all customer who choose it)

    - ***Staff-Role Mapping Form*** (For any role in the company, show staff possessed)

    - ***Package-Activity Schedule Form*** (for any selected package, show the details of the activities, travel details, mode).

- Implementation of a homepage website which includes an option menu with Attractive Graphical Dashboard.

  [5 Marks]

2.7 Documentation of the system (as implemented in 3.6)

FOR EACH FORM

Implementation document

- Provide a set of screen dumps for all the web pages (webforms) you have produced.
- Basic Forms to show CRUD operation (form view and list view screens with Template Fields for Foreign Keys))
- Complex Forms (Proper Filter Demonstration using List Box/Grid and Template Field (foreign keys))

Testing Document

[5 Marks]

- Provide a copy of the initial data (table contents) in your system.
- For each form implemented, list the individual tests that have been carried out together with their results.
- Proper test cases with Before and After Screen shots of data
- At least 2 failure cases with proper correction measures

FOR THE APPLICATION

URL address for the uploaded website (connected with the Oracle database)

User Manual (up to 5 pages)

[5 Marks]

- The User Manual should have a contents page and separate sections for each form provided.
- The User Manual should contain clear instructions on how to use the system and how to run each of the forms available to it.
- Easy to read user manual with Arrows and Graphics to explain the process

2.8 Further Discussion

[5 Marks]

Your discussion should summarise your experience in undertaking this coursework with Mention of 5 tools/techniques learnt during course work

Your Clarity of Presentation and Report Structure and Format of the Report carry 10 Marks.

Your work must be submitted in a single document, with all output including diagrams, tables, forms, SQL scripts clearly labelled and presented.

END