UNIVERSITY OF GHANA

B.SC INFORMATION TECHNOLOGY, FIRST SEMESTER

EXAMINATIONS: 2015/2016

CSIT 315: EVENT-DRIVEN PROGRAMMING (VB.Net) (3 CREDITS)

INSTRUCTION:

Answer ALL Questions in Section A

Answer Question B1 and Any Other Two (2) Questions in Section B

TIME ALLOWED:

TWO AND A HALF (2½) HOURS

SECTION A (40 Marks)

A1   a) Explain the concept of Event-Driven programming.

  b) Explain the following terminologies with respect to Event-driven programing?

    i. Event Handlers

    ii. Events

    iii. Event Triggers   **(12 Marks)**

A2   a) What is the purpose of the Try Catch block?

b) With an example, implement the **Try….catch….Finally** syntax to detect an overflow

exception. The message **"Overflow Detected"** should be executed as the final block.

          (10 Marks)

A3   a) Explain the following control structures stating an example each

i. Repetition Structure

ii. Selection Structure

iii. Select Case

iv. Sequence Structure   **(12 Marks)**

A4   Explain the following with respect to Functions and sub programs

I. Parameter ByVal

II. Parameter ByRef   **(6 Marks)**

SECTION B (60 Marks)

Answer **Question B1** and Any Other Two (2)

B1.   The purpose of the State Patrol ticket processing system is to record driver violations, to

keep records of the fines paid by drivers when they plead guilty or are found guilty of moving

violations by the courts, and to notify the court that a warrant for arrest should be issued when

such fines are not paid in a timely manner. A separate State Patrol system records accidents and

verification of financial responsibility (insurance). Yet a third system produces driving record

reports from the ticket and accident records for insurance companies. Finally, a fourth system

issues, renews, or suspends driver's licenses. These four systems are integrated.

The portion of the database used with the ticket processing system involves driver data, ticket

data, officer data, and court data. The attributes of the driver's data include license number, first n

ame, surname, address, date of birth, date licensed.

As a lead developer in JuBee Inc., you have been consulted to develop the front end of the State

Patrol ticket processing system with respect to driver data collection. Use the table definition prov

ided in **Table 1** to answer the following.

a) Write a stored procedure called **save_driver** which would both implement a save and update s

tatement for drivers' details (Table Name: **tbdriverInfo**)

b) Write a sub program called **saveDriverInfo** that would make use of the stored procedure **save_driver** to save the drivers' details. Use **cnString** as your connection string, which is stored in your settings (inside VB.Net application).

(30 Marks)

B2.   a) Explain the following terminologies and state examples each

   i. Polymorphism

   ii. Inheritance

 b) State three (3) advantages and two (2) disadvantages of Event-Driven programing.

(15 Marks)

B3.   Write a function called **PopulateSubMenu** that would accept a parameter **rooms** ByVal o f data type Portal (Enumeration) and return a data of type **Collection**. Using a Select Case, loop through the enumeration values and create a button call **btnAdd** under the enumeration value **Consultant,** and set these properties; Name, Text (**Add Patient**), Back color (Aqua), making use of the **With…..End With** syntax. The elements of the enumeration portal are as follows **OPD, Consultant, Pharmacy, Accounts**. Add a handler and an event that would be triggered when the button is clicked.

(15 Marks)

B4.   a) Define what a class is and state an example?

  b) What do we mean to say an **Object** is an **instance** of a class? State an example of an Object using the class created in B4 a).

  c) Write a stored procedure called **sel_student**. This procedure should select studID, sname, fn

ame, gender, nationality from a table **tbStudent** (Database name **JuBeedb**) for a particular

student. The procedure should accept studID (data type as **Integer**) as a parameter.

(15 Marks)

TABLE 1: Table Definitions			
Table Columns	**Data Types**	**Parameters**	**Form Fields**
licNo **(pk)**	Varchar (10)	licNo	txtLicNo
fName	Varchar (50)	fName	txtfName
sName	Varchar (50)	sName	txtsName
address	Varchar (100)	address	txtAddress
dob	datetime	dob	txtdob
dateLic	datetime	dateLic	txtdateLic