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University Examinations 2013/2014

SECOND YEAR, SECOND SEMESTER END OF SEMESTER EXAMINATION FOR THE
DEGREE IN BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

BIT 2206 – APPLICATION PROGRAMMING II

DATE: APRIL 2014

TIME: 2HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE – 30 MARKS

- a) Discuss any three merits of component based application development. (6 marks)
- b) Explain giving examples the different data store components and business components of an application. (6 marks)
- c) The following is a discounting system used to award the customer depending on the value of goods purchased.

Value	Discount (%)
≤ 1000	Nil
1001 - 3000	5
3001-5000	10
5001-7500	15
> 7501	20

- i. Write the validation code for the textbox such that:
 - The user is forced to type some data in the textbox once it receives focus
 - The data typed must be a numeric positive value. (4 marks)

- ii. Write a function call **Discount** that accepts the purchase as the input and returns the discount awarded as the return value according to the table above.
Use the **select .. Case** structure (6marks)

- d) Outline the main stages of component based application development. (4 marks)

- e) Discuss two ways of making application reusable in Visual basic. (4 marks)

Use the following narrative to answer some part of following questions

The Department of Computing and Mathematical Sciences of Silversmiths College has a set of courses provided for the undergraduate level. For each course a well defined set of admission criteria is specified; for instance, for the “Computer Science” course, 3A are required, minimum B for each, an A in Mathematics being compulsory. Each course has a name and duration; certain courses can allow industrial placements. Each course consists of a set of modules, some compulsory and some optional. A certain module is described by its name, a short syllabus, type (lectured, seminar-like, project) and year of study for which it was intended. Each student enrolled with the department, is registered for one particular course. The student must attend the compulsory modules. For every year of study, from the set of optional modules, the student must attend a certain number which is specified in the courses description. Each module is taught by a single lecturer. However, there might be modules, from the optional ones, that are not taught at all (for instance, because no students have actually registered for them). There also can exist lecturers who do not teach at all, being only involved in research. Contact information (address, telephone,...) plus personal details (date of birth, male/female,...) is needed for both lecturers and students.

QUESTION TWO –20 MARKS

- a) Discuss any three roles of user interface component. (4marks)

- b) From above narrative list all attributes of course table. (4 marks)

- c) Draw a graphical representation of a form which could be used to capture course details. (2 marks)
- d) Write appropriate code to facilitate functionality of the form in 2(c). (10 marks)

QUESTION THREE – 20MARKS

- a) From the above narrative briefly explain how the following standard controls could be used in form design for courses data entry form. Sketch form for data entry.
- i) Tool bar
 - ii) Richtextbox
 - iii) Option button
 - iv) Common dialog box (10 marks)
- b) The dialog boxes are important in interacting with the users.
- i. Write the general syntax of the Input Box Function. (3 marks)
 - ii. Draw an Input Box produced by the following statements.
 InputBox (“Type the Student Number”, “Search Student Record”, “BIT-000-0000/2000”, YesNo) (2 marks)
- c) Dialog boxes enable the interaction between the user and the program.
- i. Explain THREE categories of Dialog Boxes used in Visual basic. (3 marks)
 - ii. A dialog box can be displayed as either modal or modeless. Explain. (2 marks)

QUESTION FOUR – 20MARKS

- a) Describe the universal data access model. (6 marks)
- b) Using sample queries differentiate between DML and DCL commands. (8marks)
- c) A database in drive C named product.mdf is contained in a directory named applications. Use the ADO component to declare, initiate and open the connection and dataset objects. A table named product is used and all the fields are selected. (6 marks)

QUESTION FIVE – 20MARKS

- a) List and state work of any user support control. (2 marks)
- b) Discuss using example role of embedded SQL in Visual basic. (4 marks)
- c) From above narrative design a relational database for Silversmiths College. (10marks)
- d) Describe any two data access models. For each state data access object supported. (4 marks)