SCHOOL OF COMPUTING & INFORMATION TECHNOLOGY

Programming 1 – Individual Project (30%) – AY 2017/18 Sem 1

FLOWERS & GIFTS MANAGEMENT SYSTEM – Lecture Group TUE (12-1pm)

A local flowers & gifts shop is seeking to automate their order and delivery services. The shop prepares and delivers flowers, gourmet candy boxes and gift basket (e.g. a combination of wine, cheese, chocolate, buts etc.) for special occasions such as birthdays, anniversaries and other celebrated days (Mother's Day, Fathers' Day etc.). The shop also charges a fee to deliver these items within the parish. The owner is seeking your assistance to develop an information system that can manage the order and delivery process. The development is to be done on a phased basis with specific requirements for each phase. Requirements may evolve with each additional phase; however, **your submission should only include the requirements specified for a particular phase**.

Part 1

Given: Sep. 15, 2017

Due: Oct. 6, 2017 (submit to tutor on or before the Friday/Saturday of this week. Tutor will specify method of submission)

Weighting: 10%

In this phase, your design should simulate the entry of one order/delivery by a customer, and determine and display its cost. The available sizes and cost of items per gift type are specified in the table below. Both flowers and gift baskets are delivered in a galvanized planter tub which can also be personalized with the recipient's name at an extra cost of $1800. A standard delivery fee of $500 is applicable – note that each gift is delivered.

Gift Code	Gift Type	Available Sizes	Cost of Items
F	Flowers	One size	$2500
G	Gift Basket	One size	$3000
C	Gourmet Candy	(S)mall (M)edium (L)arge	Small - $1200 Medium - $1750 Large - $3500

Your program should:

- Accept the purchaser's name, telephone number, recipient's name, gift code corresponding to the type of gift required and delivery date. Also determine whether the gift is to include a personalized label. If the gift type is Gourmet candy, the customer should select one of the three available sizes types mentioned above.
- Provide adequate and reasonable validation of non-string inputs, along with appropriate error messages, to ensure a robust system. At this time, it is not required that you re-prompt the user for valid input. Merely indicate through your program design and output if the entry was successful or unsuccessful.
- Determine the total value of the order (including delivery). Also apply GCT of 16.5% to this value.
- Produce attractive output showing the purchaser's name, recipient's name, delivery date, gift code, gift cost, personalization cost (if any), delivery fee, GCT and the total amount to be paid by the purchaser.

Required:

i. IPO Chart
ii. The pseudocode which correctly expresses the logic for solving the problem as expressed above.
iii. A trace table with 3 sets of valid input data and 2 sets of invalid data. The table should show the corresponding output/messages that would be produced. Provide the input and output data in table form.
iv. A flowchart which corresponds to your pseudocode and which accurately represents the solution to the problem.

Mark Scheme

Deliverable	**Marks**
1. IPO Chart	6
2. Pseudocode (accurate applicability of rules, accuracy of logic)	16
3. Trace Table (agreement of trace table to the pseudocode provided)	6
4. Flowchart (accuracy of logic, agreement to the pseudocode provided)	10 + 6
5. Overall Presentation (indentation, neatness, readability, etc.	4
6. Declaration of Authorship Submission	2
Total	**50**