The City School

**North Nazimabad Boys Campus**

**Second Monthly Test Session 2019 – 20**

**Class - 11**

**Time: 35 Minutes Computer Science Marks 30**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sec: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Q1: Write an algorithm using pseudocode to:

* Input a positive integer
* Use this value to setup how many other numbers are to be input
* Input these numbers
* Calculate and output the total and average of these numbers

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Q2 **(a)** Give an example of a conditional statement using pseudocode.

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**(b)** Describe the purpose of a conditional statement.

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Q3 This section of program code may be used as a validation check.

1 PRINT "Input a value between 0 and 100 inclusive"

2 INPUT Value

3 WHILE Value < 0 OR Value > 100

4 PRINT "Invalid value, try again"

5 INPUT Value

6 ENDWHILE

7 PRINT "Accepted: ", Value

**(a)** Give a name for this type of validation check.

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**(b)** Describe what is happening in this validation check.

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**(c)** Complete the trace table for this program code using the test data: 200, 300, –1, 50, 60

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| --- | --- |
| **Value** | **OUTPUT** |
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[3]

Q4: The table, BEVERAGES, shows the number of calories in 100 ml of a range of popular beverages. It also shows the availability of these drinks in a can, a small bottle and a large bottle.



 **(a)** List the output that would be given by this query-by-example.



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**(b)** Give a reason for choosing BevNo as the primary key for this table.

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**(c)** State the number of records shown in the table BEVERAGES.

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 **(d)** Complete the query-by-example grid to output a list showing just the names and primary keys of all the beverages with a calorie count greater than 45. The list should be in alphabetical order of names.

[4]

**Q5** An algorithm has been written in pseudocode to input 100 numbers, select and print the

largest number and smallest number.

Count= 1

INPUT Number

High= Number

Low= Count

REPEAT

INPUT Number

IF Number > High THEN High= Number ENDIF

IF Number > Low THEN Low= Number ENDIF

Count= Count + 1

UNTIL Count = 99

PRINT "Largest Number is ", Number

PRINT "Smallest Number is ", Low

Find the **four** errors in the pseudocode and suggest a correction for each error.

Error 1 ........................................................................................................................................

Correction

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Error 2 ........................................................................................................................................

Correction

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Error 3

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Correction

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Error 4 ........................................................................................................................................

Correction

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**Q6** Draw a flowchart to represent the section of program code given in Q3.

[3]

Or

Q6: Describe each of the following data types used in programming. In each case, give an example of a piece of data to illustrate your answer. Each example must be different.

**Char:**

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**String:**

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**Boolean:**

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[3]