CONFIDENTIAL

UNIVERSITI TEKNOLOGI MALAYSIA
FACULTY OF COMPUTING

SKILL-BASED TEST 1

SEMESTER II 2016/2017

SUBJECT CODE	**: SCSJ1023**
SUBJECT NAME	**: PROGRAMMING TECHNIQUE II**
YEAR/COURSE	**: 1 (SCSB / SCSD / SCSJ / SCSR / SCSV)**
TIME	**: 5 p.m. – 6 p.m. (1 Hour)**
DATE	**: 22 MARCH 2017**
VENUE	**: N28 MPK1-MPK10**

INSTRUCTIONS TO THE STUDENTS:

- This test consists of only **ONE** question.
- This is a closed-book test. References to any resources by any means are strictly prohibited.
- You are given **ONE HOUR** to complete the test inclusive the submission of your programs.

SUBMISSION:

- You only need to submit the program source code file.

Problem

Write a program which is able to perform the addition and subtraction operations on numbers one to five. The user is required to enter the calculation he or she wants to perform in english words with small letters and in a single string, for example "`two plus one`", and "`one minus three`". The result of the calculation should also be displayed in words, for example, "`one minus three is negative two`".

Besides the main function, your program should also define a function that converts a number in word to its integer value, for example, "`one`" to 1, "`two`" to 2 and so on. Figure 1 shows some example runs of what your program should look like. Note that the bold text in each example indicates the input entered by the user. The assessment criteria are given in Table 1.

Run 1	`What is:` **`two plus one`** `Answer: two plus one is three`
Run 2	`What is:` **`one minus three`** `Answer: one minus three is negative two`
Run 3	`What is:` **`five minus five`** `Answer: five minus five is zero`
Run 4	`What is:` **`five plus five`** `Answer: five plus five is ten`

Figure 1: Example runs

Table 1: Assessment Criteria

Item	Criteria	Marks
A	i) The program is able to run.	2
	ii) Using an appropriate structure for the program (e.g. the code is properly indented, all the required header files are included, the main function is properly written, etc.).	2
B	The definition of function that converts a number in word to its integer value.	6
C	Reading the text of operation in a single string from the keyboard.	1
D	Extracting the words of the first and second operands as well as the operator.	6
E	Converting the operands from words to integers, e.g., "five" to 5.	2
F	Performing the arithmetic calculation accordingly, i.e., addition or subtraction .	3
G	Converting the result value from integer to word, e.g. 10 to "ten".	12
H	Printing the answer onto the screen.	1
Total		**35**