UNIVERSIDADE DE AVEIRO

DEPARTAMENTO DE ELECTRÓNICA, TELECOMUNICAÇÕES E INFORMÁTICA

Programming Elements (2022/23)

Model (only Part I) — January 2023

NAME_____ NUMBER_____

I. (8 points) Insert your answers in the table below. For each question, only one of the answers is correct. Be aware that **each correct answer contributes with 0.8 points**, whereas **each incorrect answer deducts 0.2 points**.

Question	1	2	3	4	5	6	7	8	9	10
Answer										

I.1. The assignment `a = a + 5 - 3` is equivalent to:

A) `a =+ 5 - 3`
B) `a += 5 - 3`
C) `a =+ (5 - 3)`
D) `a *= (5 - 3)`
E) None of the previous

I.2. The expression `f(x, x++)`

A) Can always be used
B) Should never be used
C) Should not be used if `f` is a function
D) Should not be used if `f` is a macro
E) None of the previous answers

I.3. Considering that an `int` variable occupies 4 bytes, and that `int a[4] = {1,2,3,4}`, then:

A) `a[2]-a[1]` is equal to 4
B) `&a[2]-&a[1]` is equal to 4
C) `&a[2]-&a[1]` is equal to 1
D) `&(a[2]-a[1])` is equal to 4
E) `&(a[2]-a[1])` is equal to 1

I.4. The C preprocessor directive `#ifdef x` is true if:

A) The variable `x` exists
B) The function `x` exists
C) The macro `x` exists
D) This directive is invalid in C99
E) None of the previous

I.5. The value of the expression `(8 % 5)` is:

A) `1`
B) `3`
C) `5`
D) This expression is invalid in C99
E) None of the previous

I.6. If the variable `x` has the value `3`, then the statement `printf("%d %d", x , x++)` will write in the *stdout*:

A) `3 3`
B) `3 4`
C) `4 3`
D) `4 4`
E) The result is undefined in C99

I.7. The declaration `int (*a)(char)` means that the variable `a` is:

A) An array of integers
B) An array of pointers to integers
C) A pointer to a function that returns `int` and has a parameter of type `char`
D) A pointer to a function that returns `char` and has a parameter of type `int`
E) None of the previous

I.8. The value of the expression `(1UL * 4)` is:

A) `1`
B) `4`
C) `0`
D) Depends on the value of the variable `1UL`
E) The expression is invalid in C99

I.9. The value of the expression `(0x0001 << 2)` is:

A) `1`
B) `4`
C) `0`
D) The expression is invalid in C99
E) None of the previous

I.10. The value of the expression `(a > 0 ? -a : a)` is:

A) `0`, if `a` is equal to `8`
B) `8`, if `a` is equal to `-8`
C) `8`, if `a` is equal to `8`
D) The expression is invalid in C99
E) None of the previous