ECAM
BRUSSELS ENGINEERING SCHOOL

Winter 2020
Sébastien Combéfis

DB701μ Introduction to Blockchain with Python

Quizz 3: Block validation and Proof-of-Work

This assessment evaluates the following competencies:

- *BC101 – Understand the notions of block, blockchain and mining* *(+1)*
- *BC102 – Understand blockchain mechanisms and operations* *(+1)*
- *BC103 – Understand the Proof-of-Work (PoW) consensus algorithm* *(+1)*

Three affirmations are given for each assessed competency. For each of them, you have to decide whether it is true or false. To get a star for the competency, you must have the correct answer for the three affirmations.

BC101	**True**	**False**
The mining process is used to generate the next blocks to be added to the blockchain.	☐	☐
It is possible that a given block has two different predecessors in a blockchain, at least temporarily.	☐	☐
A block can contain at most one transaction.	☐	☐

BC102	**True**	**False**
The hash of a block depends on the value of the previous hash stored in the block.	☐	☐
To send a transaction request message to the nodes of the network, a node has first to digitally sign it with its public key.	☐	☐
When there is a fork situation, the fork that will be kept is the longest one.	☐	☐

BC103	**True**	**False**
The mining process consists in changing something inside the node so that its hash satisfies some constraints depending on the type of blockchain.	☐	☐
Several miners can solve the mathematical puzzle at the same time, but only one block will finally be accepted and be added to the blockchain.	☐	☐
A node that finds the correct nonce for the next block can be rewarded with bitcoins, for example.	☐	☐