University College Dublin
An Coláiste Ollscoile, Baile Átha Cliath

SEMESTER II EXAMINATION – SAMPLE PAPER

COMP 41110

Cloud Computing

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Time allowed: 2 hours

Instructions for candidates

The paper is marked out of 100.

Instructions for invigilators

Closed book exam

Part A
Answer all questions of the following:

Question I (30 marks)

1. What is a parallel computing system?

2. What is a distributed computing system?

3. How do they compare?

Question II (30 marks)

1. Give three examples of IaaS services.

2. What are the differences between AWS SimpleDB and AWS S3?

3. What are the main security concerns in Cloud computing?

Question III (10 marks)

1. What is MapReduce? Describe its model.

2. Describe the general architecture of HDFS.

Part B
Answer any one question of the following:

Question IVa: (30 marks)

Write a Pig script that counts the number of occurrences of each word in a text file input.txt.

Question IVb: (30 marks)

Let's consider the problem of counting occurences of each word in a text file:

1. Define the input and the output of the Map and Reduce functions.

2. Write Map and Reduce functions. (pseudo-code)

END OF EXAMINATION