



UNIVERSITY OF GHANA

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B.SC INFORMATION TECHNOLOGY, FIRST SEMESTER EXAMINATIONS: 2016/2017

CSIT 409: CLOUD COMPUTING (3 CREDITS)

INSTRUCTION:

Answer any four (4) questions. Each question carries (25 marks)

TIME ALLOWED:

TWO AND HALF (2 ½) HOURS

A1. (a) (i) Before deploying applications to the cloud, it is necessary to consider your business requirements. State five business issues that should be considered. **[5 marks]**

(ii) Deploying an application or business in the cloud focuses on two deploying phases. Explain these phases. **[6 marks]**

(b) By the aid of a diagram explain the service-oriented architecture. **[8 marks]**

(c) Grid computing breaks complex task into smaller pieces, which are distributed to CPUs that reside within the grid. Do you agree? Explain your position. **[6 marks]**

A2. (a) Explain the term

- (i). Virtualization
- (ii). Abstraction
- (iii). Utility Computing

[6 marks]

(b) Amazon provides BitTorrent access to into Amazon S3. Describe the detail operation of the BitTorrent file distribution network. **[12 marks]**

(c) (i) Briefly explain why Google built a worldwide network of datacenters in the last decade to service its search engine. **[4 marks]**

(ii) Briefly give the functions of the Azure cloud computing platform. **[3 marks]**

- A3.** (a) Give a detail description of the general architecture of cloud computing. [12 marks]
- (b) Do you believe that cloud computing represents a real paradigm shift in the way in which systems are deployed? Explain your position. [6 marks]
- (c) Give a brief history of cloud computing. [7 marks]

A4. (a) Give a brief description of the following cloud types.

- i. Private cloud
- ii. Community cloud
- iii. Hybrid cloud

[6 marks]

- (b) Explain the related risks to cloud computing. [10 marks]
- (c) (i) State one (1) advantage and three (3) disadvantages of the client-server network. [4 marks]
- (ii) State five (5) benefits of cloud computing. [5 marks]

A5. (a) Briefly describe the cloud computing Infrastructure as a Service (IaaS). [8 marks]

(b) Briefly explain the storage services of Amazon S3. [9 marks]

(c) (i) What is *Message Queue Service*? [2 marks]

(ii) Briefly describe the Amazon *SQS*. [6 marks]