



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2016/2017**

**TERBUKA**

COURSE NAME : CLOUD COMPUTING  
COURSE CODE : BIW 33303  
PROGRAMME CODE : BIW  
EXAMINATION DATE : JUNE 2017  
DURATION : 2 HOURS 30 MINUTES  
INSTRUCTION : ANSWERS ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

**Section A:** For **Q1** to **Q10** choose the best answer for each question.

- Q1** Which of the following cloud concept is related to pooling and sharing of resources?  
(A) Polymorphism  
(B) Abstraction  
(C) Virtualization  
(D) None of the mentioned

(1 mark)

- Q2** \_\_\_\_\_ has many of the characteristics of what is now being called cloud computing.  
(A) Internet  
(B) Softwares  
(C) Web Service  
(D) All of the mentioned



(1 mark)

- Q3** Which of the following is Cloud Platform by Amazon?  
(A) Azure  
(B) AWS  
(C) Cloudera  
(D) All of the mentioned

(1 mark)

- Q4** Point out the wrong statement:  
(A) Large cloud providers with geographically dispersed sites worldwide therefore achieve reliability rates that are hard for private systems to achieve  
(B) Private data-centers tend to be located in places where the company or unit was founded or acquired  
(C) A network backbone is a very low-capacity network connection  
(D) None of the mentioned

(1 mark)


- Q5** \_\_\_\_\_ is a function of the particular enterprise and application in an on-premises deployment.  
(A) Vendor lock  
(B) Vendor lock-in  
(C) Vendor lock-ins  
(D) None of the mentioned

(1 mark)

DR. HARIJANAM BIN MAHDIR  
The Director/Institute, Faculty of Information Technology  
Fakulti Sains Komputer dan Teknologi Maklumat  
Universiti Kebangsaan Malaysia

- Q6** Which of the following is **NOT** an advantage of cloud computing?
- (A) No worries about running out of storage
  - (B) Easier to maintain a cloud network
  - (C) Immediate access to computing resources
  - (D) Paying only for what you use
- (1 mark)
- Q7** What feature does not belong in a private cloud?
- (A) Metered billing
  - (B) Self-service portal
  - (C) Dial-home support
  - (D) Rapid elasticity
- (1 mark)
- Q8** Which term best describes the ability to rapidly increase user accounts for a given cloud service?
- (A) Volatility
  - (B) Synchronicity
  - (C) Viability
  - (D) Elasticity
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- (1 mark)
- Q9** Which option describes a benefit of virtualized servers?
- (A) Shared hardware
  - (B) Individual hardware per virtual server
  - (C) Physical servers taking less room space than virtual servers
  - (D) Virtual servers taking less disk space than physical servers
- (1 mark)
- Q10** What is private cloud?
- (A) A standard cloud service offered via the Internet
  - (B) A cloud architecture maintained within an enterprise data center
  - (C) A cloud service inaccessible to anyone but the cultural elite
  - (D) None of the mentioned
- (1 mark)

**SECTION B: Subjective Questions**

- Q11** (a) Explain the difference between virtualization and emulation. (2 marks)
- (b) Identify the following characteristic is belong to either Cloud Computing or Grid Computing:
- (i) Consumption-dependent billing.
  - (ii) Mainly physical resources.
  - (iii) Mainly virtualized resources. (3 marks)
- (c) Provide **TWO (2)** reasons why should one prefer Public cloud over Private cloud: (4 marks)
- (d) Identify the type of cloud computing that you would be using based on the given requirement:
- (i) Moving your server into cloud.
  - (ii) Using Office 365 as a software for your documentation needs.
  - (iii) Using Apache Stratos as the platform for your software.
  - (iv) MySQL for your system database. (4 marks)
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- Q12** (a) You are planning to open a cloud computing firm that offered Software as a Service (SaaS) to your client.
- (i) List **THREE (3)** options of charging methods that you can offer to your client. (3 marks)
  - (ii) Suggest when it is the best to use each of the option that you give in **Q12(a)(i)**. (3 marks)
- (b) Cloud computing business that offer SaaS can centralize their resources and provide the services to their client. This model provides at least three major benefits to the businesses.
- (i) List what are these **THREE (3)** benefits. (3 marks)

- (ii) Give a brief explanation for every benefits you have listed for **Q12(b)(ii)**.  
(3 marks)

**Q13 (a)** Given is the formula to calculate the electricity cost.

cost of electricity = wattage x hours used ÷ 1000 x price per kWh

The following is the power consumption by Fat Clients and Thin Clients:

Scenario 1: Fat Clients (PC)

- Electrical connection per desktop system: 280Watt
- Electrical connection per screen: 80Watt

Scenario 2: Thin clients with blade servers

- Electrical connection per thin client: 30Watt
- Electrical connection per screen: 80Watt
- Electrical connection per server blade: 180Watt
- 30 virtual desktops can be installed on one server blade

- (i) What did the annual (non-leap year) continuous operation (24/7) cost at 0.20 cents/kWh for a company XY with 750 fat clients?  
(4 marks)

- (ii) What did the annual (non-leap year) continuous operation (24/7) cost at 0.20 cents/kWh for a company XY with 750 thin clients?  
(5 marks)

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(b) Consider only the information given below to answer question **Q13(b)(i) – (iii)**:

The Bekazon AC3 charge user a \$0.24 per hour for their services with the condition user needs to pay a booking fee \$900.00 for entire server per year. For an alternative, a local provider Cloud GS offers the same service with slightly higher price of \$0.35 per hour but clients are not required to pay for the server booking fee. Your organization asks you to choose either to use services from Bekazon AC3 or Cloud GS.

- (i) What is the main parameter that you need to consider in choosing the cloud service providers?  
(2 marks)

- (ii) If the length of the project is two years, decide which service provider will be your choice. Support your answer by showing the calculation.  
(6 marks)

- (iii) If the new price of server booking fee at Bekazon AC3 is \$950, decide which service provider will be your choice. Support your answer by showing the calculation.  
(4 marks)

