

**FINAL
ALTERNATIVE ASSESSMENT**

(COVER PAGE)

Session : AUGUST 2021

Programme : Diploma In Computer Science (DCS)

Course : **DCS2107: CLOUD COMPUTING FUNDAMENTALS**

Date of Examination : December 4, 2021 (Saturday)

Time : 4.00pm – 6.30pm Reading Time : Nil

Duration : 2 Hours 30 Minutes

Special Instructions :

Instructions: This question paper consists of **FOUR (4)** questions. Answer **ALL** questions. All questions carry equal marks.

Note: 30 minutes is added into the duration of the examination to factor in any connectivity matters and for you to scan and upload your scripts.

Materials permitted : Nil

Materials provided : Nil

Examiner(s) : **Victor Raj Kolintiar**

Chief Moderator : Ms Usha Jayahkudy

This paper consists of 3 printed pages, including the cover page

DIPLOMA IN COMPUTER SCIENCE PROGRAMME (DCS)
DCS2107: CLOUD COMPUTING FUNDAMENTALS
FINAL ALTERNATIVE ASSESSMENT: AUGUST 2021 SESSION

Instructions: This question paper consists of **FOUR (4)** questions. Answer **ALL** questions.

Question 1

- (a) Identify and explain any **TWO (2)** areas where virtualization is not recommended. (6 marks)
- (b) Explain **THREE (3)** types of virtualization classified by the extent of hardware emulation. (6 marks)
- (c) Explain **THREE (3)** common considerations in server virtualization. (6 marks)
- (d) An organization wants to implement VLAN, for better network management. Answer the following questions for effective VLAN implementation:
- (i) Besides improved network management, identify **THREE (3)** other advantages of VLAN? (3 marks)
- (ii) Based on **ONE (1)** of the advantages provided in part (i) above, discuss this advantage with an appropriate example. (4 marks)

[Total: 25 marks]

Question 2

- (a) Draw and explain Type 1 and Type 2 Hypervisors. (8 marks)
- (b) Discuss **THREE (3)** types of storage virtualization. (9 marks)
- (c) Compare Virtualization and Cloud with the aid of a table. (8 marks)

[Total: 25 marks]

Question 3

(a) Draw and explain the anatomy of cloud. (12 marks)

(b) Calculate the CapEx for Andrew & Co. for the year 2020 using the provided information below (*use formula provided*):

- 2020 Depreciation is \$46,321 on the income statement
- Current period (2020) PP&E is \$78,246 on the balance sheet
- Prior period (2019) PP&E is \$74,753 on the balance sheet

Formula:

$$\text{CapEx} = \text{PP\&E (current period)} - \text{PP\&E (prior period)} + \text{Depreciation (current period)}$$

(5 marks)

(c) Compare PaaS and IaaS in relation to either **TWO (2)** of capability, user control or services offered.

(8 marks)

[Total: 25 marks]

Question 4

(a) Discuss **ONE (1)** advantage and **ONE (1)** disadvantage of public cloud and hybrid cloud respectively. (10 marks)

(b) INTI University debating whether to install a private cloud or to use a public cloud, for its computational and storage needs, seeks your advice. Based on the following concerns, how would your advice vary accordingly:

(i) When cost is the primary concern? (5 marks)

(ii) When software licensing is important? (2 marks)

(iii) Explain the benefits of cloud computing migration to INTI University. (8 marks)

[Total: 25 marks]

~ The End ~

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