Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2021/2022

COURSE NAME	:	CLOUD COMPUTING
COURSE CODE	:	BIW 33703
PROGRAMME CODE	:	BIW
EXAMINATION DATE	:	JULY 2022
DURATION	:	3 HOURS
INSTRUCTION	:	1. ANSWER ALL QUESTIONS
		2. THIS FINAL EXAMINATION IS AN **ONLINE** ASSESSMENT AND CONDUCTED VIA **CLOSED BOOK.**
		3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK.

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

Q1 (a) List **FIVE (5)** different services offered by major cloud computing platforms such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud and IBM Cloud.

(5 marks)

(b) Discuss the most appropriate cloud service model used for each of the following cases. Support your answers with valid reasons.

(i) In 2018, Dropbox identified a need to migrate away from its on-premises Hadoop clusters to improve its customer experience. The clusters held petabytes of analytical data, including server logs, instrumentation, and metadata related to Dropbox's more than 600 million global customers.

(5 marks)

(ii) Adobe, the manufacturer of popular creative software such as Adobe Reader, Adobe Photoshop etc. transformed its software delivery from traditional licensing models to subscription-based and cloud-delivered models. This move brings about significant benefit of reducing the occurrence of software piracy.

(5 marks)

(iii) The Australian government uses the open-source Cloud Foundry to deliver around 1500 websites and digital services to its citizens. The move was driven by the need to minimize bureaucracy and to make online interactions more transparent and understandable to both users and involved intermediaries. Cloud Foundry eliminates the need for software developers to be concerned with the underlying IT infrastructure, as all services they required are facilitated from within the cloud.

(5 marks)

Q2 (a) Explain the technological requirements to support each of the following cloud architectural principles.

(i) Efficiency

(4 marks)

(ii) Interoperability

(4 marks)

(iii) Security

(4 marks)

(b) Explain the steps for a capacity planning process.

(8 marks)

Q3 Questions **Q3(a) – (c)** are based on **Figure Q3**.

> Massive amount of data is being generated all the time. This data can be incredibly useful, but only if it can be accessed, organized, and analyzed. Traditional data storage systems were not designed to effectively handle this task, meaning valuable data is hidden or overlooked and enterprise and IT resources are strained.

Figure Q3

(a) Suggest a new storage system and its features.

(3 marks)

(b) Contrast each of the following cloud storage.

(i) Block storage

(5 marks)

(ii) File storage

(5 marks)

(iii) Object storage

(5 marks)

(c) What does economy of scale mean in IT investment and operation decisions?

(2 marks)

(ii) **Figure Q4(c)(ii)** shows an architecture of a storage technology.

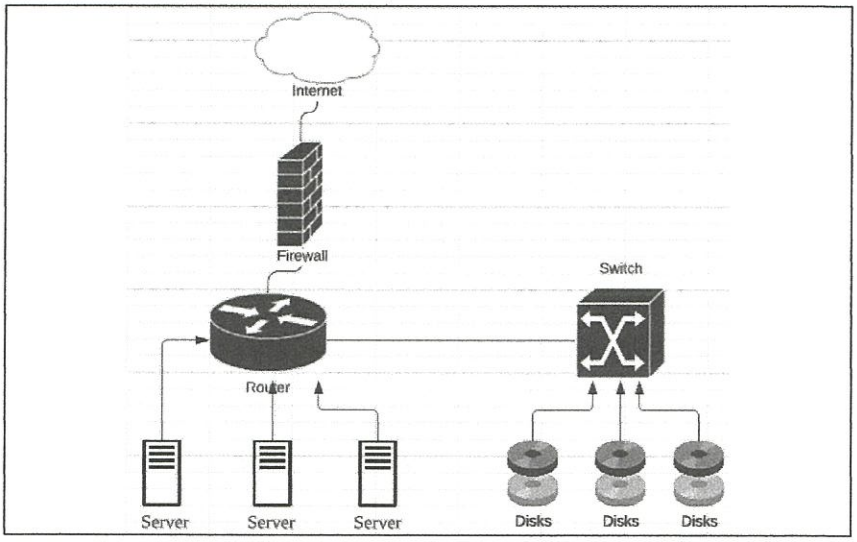

Figure Q4(c)(ii)

(5 marks)

- END OF QUESTIONS –