

**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**FACULTY OF SCIENCE AND ENGINEERING**

**DEPARTMENT OF COMPUTER SCIENCE**

**BSc HONOURS IN NETWORK ENGINEERING**

**VIRTUALIZATION AND CLOUD COMPUTING IT213/ NWE213**

**DURATION: 2 HOURS 30 MINUTES**

**TOTAL MARKS: 100**

**INSTRUCTIONS TO CANDIDATES**

JUN 2025

This paper carries 5 questions. You are required to answer all.

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**Question 1**

Assume that you are an executive at a very big corporation. Your particular responsibilities include to make sure that all of your employees have the right hardware and software they need to do their jobs. To buy computers for everyone is not enough. You also have to purchase software as well as software licenses and then provide these software to your employees as they require. Whenever you hire a new employee, you need to buy more software or make sure your current software license allows another user. It is so stressful that you have to spend lots of money. Write a report to the Chief Executive Officer giving him an insight of recent technologies and how they can be used to minimise costs and the inherent advantages.

**[20]**

**Question 2**

- a) Briefly explain the essential characteristics of cloud computing. **[10]**
- b) Explain the following Cloud Service Models giving examples
  - i. SaaS **[3]**
  - ii. PaaS **[4]**
  - iii. IaaS **[3]**

### Question 3

Write brief notes on the following cloud Deployment Models

- i. Private Cloud [5]
- ii. Community Cloud [5]
- iii. Public Cloud [5]
- iv. Hybrid Cloud [5]

### Question 4

In Cloud Computing, an actor is an entity (a person or an organization that participate in a transaction or process and/or performs tasks. List and explain any five actors in cloud computing. [20]

### Question 5

- i. Security and privacy in the management of data is of paramount importance in any organisation. Explain any two Security management issues in terms of Cloud Computing. [10]
- ii. List and explain any two building blocks in cloud architecture. [10]

**END OF EXAMINATION**