



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

**UNIVERSITY EXAMINATIONS
2024/2025 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR TWO SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE IN
(COMPUTER SCIENCE)**

COURSE CODE : CSC461E

COURSE TITLE : DATABASE

ADMINISTRATION

DATE: 22/01/00/2025

TIME: 08.00 A.M – 10.00 A.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) (30 MARKS]

- a) State and explain two components that makes up SQL server architecture (4 Marks)
- b) List any four files/database that are important for the running of SQL server (4 Marks)
- c) The first step before initiating a SQL Server installation involves proper planning. A successful SQL Server installation starts with a good game plan. List the tasks and considerations you need to consider when planning the installation (4 Marks)
- d) Highlight on two types of storage used in SQL server (4 Marks)
- e) Define collation and explain its importance (3 Marks)
- f) Service accounts are an important part of your security model. When choosing service accounts, consider the principle of least privilege. There several service account that you use to secure a database. Among those accounts, state which one will provide best security and explain how. (4 Marks)
- g) List any three tools that used to monitor a database performance (3 Marks)
- h) What is **SQL Server Upgrade Advisor**, Explain its importance? (4 Marks)

QUESTION TWO (20 MARKS]

- a) Evaluate the key metrics that are used to monitor I/O performance in database administration (6 Marks)
- b) A smooth upgrade requires a good plan. When you devise an upgrade plan, you must break down the upgrade process into individual tasks. State any four tasks you need to consider before you upgrade (5 Marks)
- c) When choosing hardware for database installation, processor is a key factor, Explain the considerations for processors (4 Marks)
- d) What is a scheme and how is important in database administration (5 Marks)

QUESTION THREE (20 MARKS]

- a) Describe any three types of installation strategy of a database highlighting pros and cons of each (12 Marks)
- b) Give reasons why its advised to set the maximum memory for SQL server (3 Marks)

- c) Discuss how a network can become a bottleneck for databases

(5 Marks)

QUESTION FOUR (20 MARKS]

You are a DBA for large phone company. The company has decided to upgrade to SQL New version of SQL server and you are charged with creating and implementing the upgrade plan.

- a) Given key consideration you include in your plan **(7 Marks)**
- b) How can we make sure that service will not be interrupted if the upgrade process fails? **(5 Marks)**
- c) How can we make sure that the current applications will not have problems once we connect them to the new installation? **(8 Marks)**

QUESTION FIVE (20 MARKS]

- a) Briefly identify and explain the reason for monitoring SQL databases **(10 Marks)**
- b) Identify the Bottlenecks that cause CPU resource shortages **(3 Marks)**
- c) State and explain the components of SQL server agent **(7 Marks)**