



# ZIMBABWE EZEKIEL GUTI UNIVERSITY

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## FACULTY OF HEALTH, SCIENCE AND TECHNOLOGY

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### DEPARTMENT OF DIGITAL TECHNOLOGY

### EXAMINATION PAPER

**COURSE CODE** : CDT 412 3  
**COURSE TITLE** : Data Mining and Data Warehousing  
**SPECIAL REQUIREMENTS** : None  
**DURATION** : 3 Hours  
**LEVEL** : 4.2  
**DATE** : 29 JUN 2022

#### INSTRUCTIONS TO CANDIDATES:

1. Answer any 4 Questions from the whole paper.
2. The total Marks for the examination is 100.
3. The marks allocation for each question are indicated in square brackets [].

### QUESTION 1

One problem area with the DDBMSs is that of distributed database design.

- (a) Discuss the issues that have to be addressed with distributed database design. [20]  
(b) Outline the benefits of OLAP [5]

[TOTAL 25]

### QUESTION 2

(a) Present a diagrammatic representation and explanation of the typical architecture and main components of a data warehouse. [20]

(b) Explain what is meant by the following terms, when describing the characteristics of the data in a data warehouse:

- (i) Subject –oriented [2]
- (ii) Time-variant [2]
- (iii) Non-volatile. [2]

[TOTAL 25]

### QUESTION 3

a) Describe the architecture, characteristics, and issues associated with each of the following categories of OLAP tools:

- (i) MOLAP [7]
- (ii) ROLAP [7]
- (iii) HOLAP [7]

(b) Discuss how data mining can realize the value of a data warehouse. [4]

[TOTAL 25]

### QUESTION 4

The ultimate goal of data warehousing is to integrate enterprise wide corporate data into a single repository from which users can easily run queries, produce reports, and perform analysis.

Justify the need for data warehousing [25]

[TOTAL 25]

**QUESTION 5**

- a) Give an outline of different problems which are associated with data warehousing [9]
- b) Compare and contrast OLTP and OLAP [8]
- c) Explain, with examples, the meaning of the following OLAP terms
  - (i) drill down,
  - (ii) Rollup,
  - (iii) Slice, and
  - (iv) pivot

[8]

[TOTAL 25]

**End of Paper**

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