(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR
SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR THREE SEMESTER TWO EXAMINATIONS

FOR THE DEGREE OF
BACHELORS OF SCIENCE
(INFORMATION TECHNOLOGY)

COURSE CODE : BIT 326

COURSE TITLE : DATA WAREHOUSING AND MINING

DATE: 12/02/2021   TIME: 2.00 PM – 4.00 PM

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTIONS ONE AND ANY OTHER TWO

QUESTION ONE [COMPULSORY] [30 MARKS]

a. Distinguish between ER Modelling and Dimensional Modelling. **[2 Marks]**
b. Explain any THREE differences between a data mart and a data warehouse. **[6 Marks]**
c. Describe any TWO functions of data correction in data cleansing tools. **[4 Marks]**
d. Explain how the information from the data warehouse promotes customer relationship management. **[2 Marks]**
e. Explain the difference between data mining and OLAP. **[2 Marks]**
f. You are the data design specialist on the data warehouse project team for Kibabii University. Design a STAR schema to track fees paid and fee balance with any four relevant dimension tables. **[10 Marks]**
g. Explain the differences between star and snowflake schema. **[4 Marks]**

QUESTION TWO [20 MARKS]

a. Describe any four types of analytical operations in OLAP. **[8 Marks]**
b. "A data warehouse in an environment, not a product". Discuss. **[2 Marks]**
c. Compare and contrast data mart and a data warehouse. **[4 Marks]**
d. Discuss any **three** benefits of data warehouse to organizations that use them. **[6 Marks]**

QUESTION THREE [20 MARKS]

a. Explain the differences between additive, semi-additive and non-additive measures.
  [6 Marks]
b. Explain the benefits of aggregation. **[4 Marks]**
c. You recently joined as the data extraction specialist on the data warehouse project team developing a conformed data mart for Kibabii University. Make a detailed list of functions and services for data extraction, data transformation, and data staging. **[10 Marks]**

QUESTION FOUR [20 MARKS]

a. Describe the cluster detection technique. **[2 Marks]**
b. Explain the meaning of market basket analysis. **[2 Marks]**
c. Distinguish between conformed dimension and role-playing dimension. **[2 Marks]**
d. Identify the steps to build the data warehouse. **[8 Marks]**
e. Discuss three specific ways in which agent technology may be used to enhance the value of the data warehouse in a large manufacturing company. **[6 Marks]**

QUESTION FIVE [20 MARKS]

a. Explain why it is a good practice to load the dimension tables before the fact tables.
  [2 Marks]
b. "Data warehousing is the only viable means to resolve the information crisis and to provide strategic information". Explain any **three** reasons to support this assertion.
  [6 Marks]
c. Describe TWO major functions and services for information delivery. **[4 Marks]**
d. Discuss any four types of slowly changing Dimension (SCD) **[8 Marks]**