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FINAL EXAMINATION
NOVEMBER 2023

COURSE TITLE	BUSINESS ANALYTICS
COURSE CODE	RBAN3123
DATE/DAY	15 FEBRUARY 2024 / THURSDAY
TIME/DURATION	02:00 PM - 04:00 PM / 02 Hour(s) 00 Minute(s)

INSTRUCTIONS TO CANDIDATES :

1. Please read the instruction under each section carefully.
2. Candidates are reminded not to bring into examination hall/room any form of written materials or electronic gadget except for stationery that is permitted by the Invigilator.
3. Students who are caught breaching the Examination Rules and Regulation will be charged with an academic dishonesty and if found guilty of the offence, the maximum penalty is expulsion from the University.

(This Question Paper consists of **7** Printed Pages including front page)

DO NOT OPEN THE QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO

This question paper consists of TWO (2) sections. Answer ALL questions in the answer booklet provided. **[100 MARKS]**

Section A (40 Marks)

There are TWENTY (20) questions in this part. Answer ALL questions in the answer booklet.

1. What is the outcome of a left join between Table A and Table B?

    A. All rows of Table A with matched rows of Table B
    B. All intersected rows of Table A and Table B
    C. All rows of Table A and Table B
    D. All rows of Table B with matched rows of Table A

2. What is the main use of the Hierarchy function in Tableau?

    A. To group related fields and form levels of granularity
    B. To create a new field using different fields with a mathematical formula
    C. To filter out certain rows
    D. To join two different tables with its inner join function

3. Which of the following functions of a cognitive system gives a sequential order to a list of chosen answers, by arranging the most relatable answer first and the least relatable answer the last?

    A. Natural language processing
    B. Ranking
    C. Build Models
    D. Candidate answer generation

4. In natural language processing, _____ look up similar words for answers and tends to be _____. However, _____ understands the context and meaning on a deeper level and tends to be _____.

    A. Shallow NLP – accurate – Deep NLP – precise.
    B. Deep NLP – accurate – Shallow NLP – precise.
    C. Shallow NLP – precise – Deep NLP – accurate.
    D. Deep NLP – precise – Shallow NLP – accurate.

5. In which category does an analytical dashboard presentation file on user activities data belong on the big data platform?

    A. System of insight
    B. System of engagement
    C. System of record
    D. System of information

6. Which component of the System of Insight should you configure if you want to permit access to a colleague so that he/she can use the platform?

   A. Information and governance
   B. Analytical Platform
   C. Security
   D. Real-time Analytics

7. What is the difference between a Data Warehouse and a Content Store on the Analytical Platform component of a System of Insight?

   A. A Data Warehouse contains data such as Excel files while a Content Store contains data such as PDF files
   B. A Data Warehouse contains more data than a Content Store
   C. A Data Warehouse is powered by Hadoop to process a large amount of data with a parallel, distributed algorithm while a Content Store is not
   D. A Data Warehouse contains data such as PDF files while a Content Store contains data such as Excel files

8. What is the function of Stream Computing in the Real-Time Analytics component?

   A. To tidy up the incoming data such as fixing data formats to make it consistent
   B. To identify patterns in the incoming data, such as detecting a traffic jam
   C. To process the incoming data one at a time instead of processing it as a whole dataset
   D. To process the incoming data as a whole dataset instead of processing it one at a time

9. _____ converts a string of sentence 'Hello Good Day' into 'hlwCMavvb4t6z+em4/jL' instead of '***************'.

   A. Data assurance
   B. Data encryption
   C. Data governance
   D. Data masking

10. You are setting up a user account for your colleague for the Big Data Platform of the company. First, you set the _____, which allows your colleague to be able to log into the system. Then, you set the _____, which allows your colleague to view only the information on the project he/she is assigned to.

    A. authentication, authorization
    B. authorization, authentication
    C. encryption, masking
    D. masking, encryption

11. What is the level of security of the hybrid cloud components? Rank from the most secured to the least secured (left to right).

    A.   Public cloud, private cloud, on-premises
    B.   Private cloud, public cloud, on-premises
    C.   On-premises, private cloud, public cloud
    D.   On-premises, public cloud, private cloud

12. Where should you store the sensitive data of the company and why?

    A.   Anywhere on the private cloud, public cloud and/or on-premises as long as the cost is kept to the lowest
    B.   Private cloud, because only the company has access to it and it can be accessed anywhere
    C.   Public cloud, because the amount of sensitive data over the years is huge and it is more cost-efficient by having a pay-per-use basis
    D.   On-premises, because the company can get full access and it is compliant with all the other systems in the company

13. If a hybrid cloud environment is so beneficial to be implemented, why hasn't it been deployed in most of the organizations?

    A.   Do not have a stable network connection across different hosting locations
    B.   Hard to integrate the existing systems from different platforms with different compatibilities
    C.   Does not comply with company security policies
    D.   All of the above

14. In Tableau, the Calculated Field function uses existing fields to create a new field.

    A.   True
    B.   False

15. Given Table A, Table B and Table C. Table A and C are on the same level of granularity, but Table B is of a different format. How to join these tables together?

    A.   Use inner join to merge Table A and B, then use data blending to merge the joined table with Table C
    B.   Use inner join to merge Table A and C, then use data blending to merge the joined table with Table B
    C.   Use inner join and directly join the three tables together
    D.   Use the hierarchy function to join all fields together

16. You want to join Table A and Table B in Tableau using the ID column. You found out that the ID column in Table A is named as 'ID' and the ID column in Table B is named as 'Identity Number'. What do you have to do to join these tables?

    A. Use dual-axis chart to make the charts of these tables overlap together
    B. Upload both tables on Tableau Public and they will be merged automatically
    C. Edit and add a Blend relationship for these columns
    D. These tables cannot be joined

17. In Tableau, you dragged the Country field onto a worksheet and expected a Map chart to appear. However, a table appeared instead of a chart. What is the best way to change it to a Map chart?

    A. Change the data type from string to geographic role
    B. Change the data type from geographic role to string
    C. Create a new field with another field
    D. Join with a new table using data blending

18. You created a pie chart in Tableau using the Gender field. You want to change the number of males and females into percentages. What is the best way to do that?

    A. Open Excel and recalculate all the values using PivotTable
    B. Go to the data connection page and edit all the values into percentages
    C. Use the Quick Table Calculation and choose the Rank function
    D. Use the Quick Table Calculation and choose the Percent of Total function

19. Use the Quick Table Calculation and choose the Percent of Total function.

    A. True
    B. False

20. You can drag as many worksheets and dashboards as you want in Tableau stories to create a storyline for a coherent presentation.
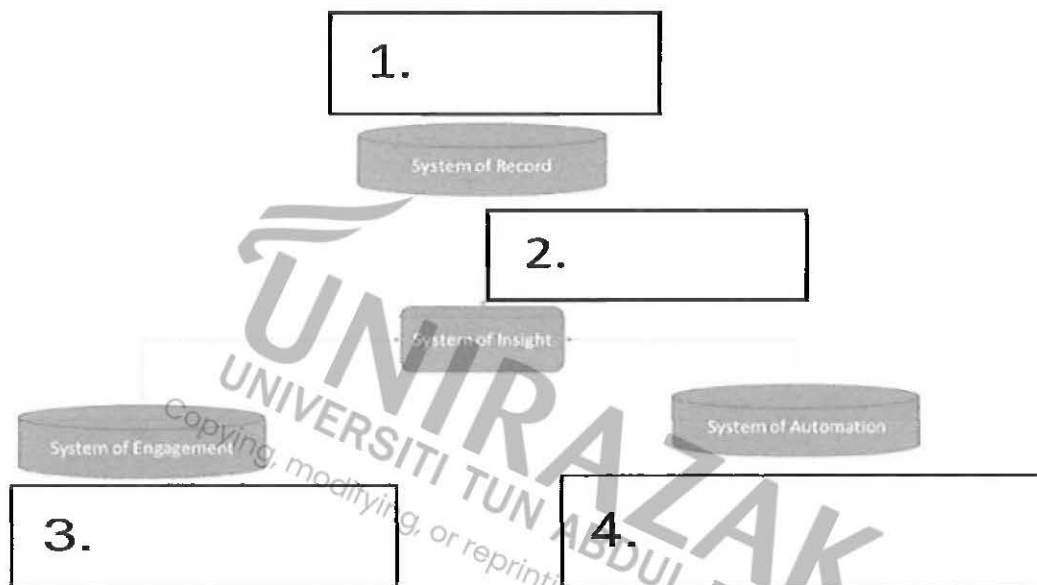
    C. True
    D. False

SECTION B   (60 Marks)

There are TWO (2) questions in this section. Answer ALL questions in a subjective format.

QUESTION 1

The diagram below shows a high-level view of the Big Data platform of cloud computing:

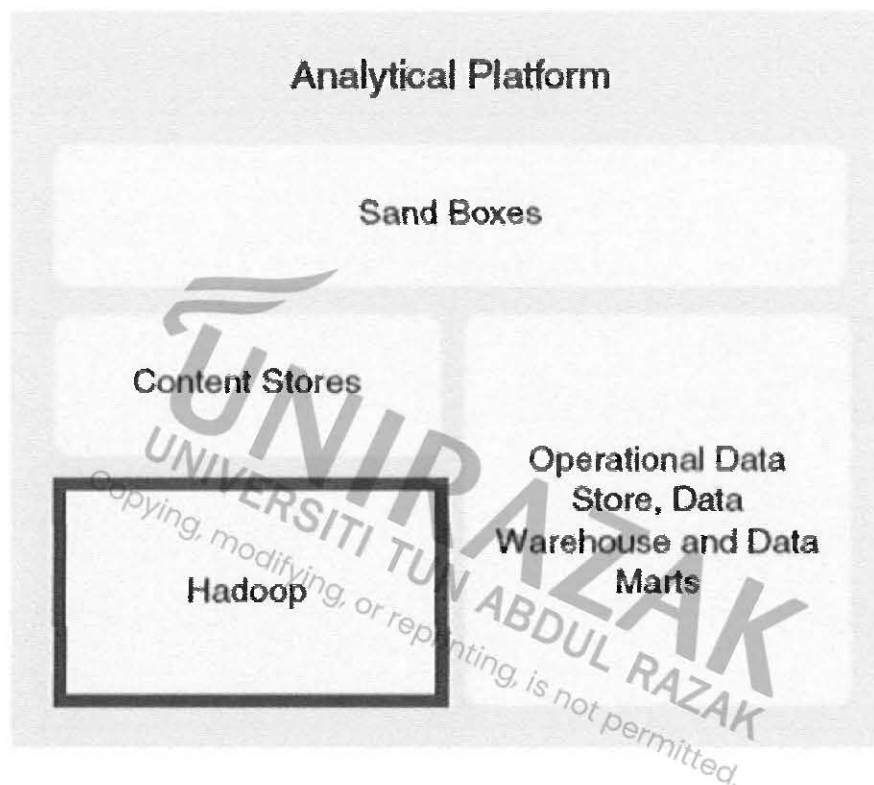There are different kinds of data available for use nowadays, organized according to their usage.

Explain in detail the functionality along with one (1) example of a real case use of all the systems individually shown in the diagram above. You may write your answer listing down all the systems: (30 marks)

1.
2.
3.
4.

QUESTION 2

Below is a diagram of an Analytical Platform for cloud computing, a building block needed to support the Big Data Analytics platform. The analytical platform is a place to store and explore data and it consists of different data platforms shown below to form a polyglot data store.

Describe each one of the Data platforms in terms of its features and data functionality:

(30 marks)

1. Hadoop

2. Operational Data Store, Data Warehouse and Data Marts

3. Content Stores

4. Sand Boxes.

*** END OF QUESTION PAPER ***