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Question Paper Code : 90222

M.C.A. DEGREE EXAMINATIONS, APRIL/MAY 2022

Elective

MC 4008 – BUSINESS DATA ANALYTICS

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is business analytics?
2. What is data analytics and its application in business?
3. How descriptive data analytics differs from Predictive data analytics?
4. What is a Z-Score?
5. How does sample size affect hypothesis test?
6. How does the concepts of conditional probability applied in everyday situations?
7. Why Hadoop is better than RDBMS? Justify.
8. List out various components of MapReduce.
9. Why do we use Pentaho?
10. What is difference between SQL and NoSQL?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Mention some of Drivers for Business Analytics. (7)
(ii) What are the skills required for a business analyst. (6)
- Or
- (b) Explain the process involved in business analytics.

12. (a) Why data visualization is important in business analytics? Explain some visualization methods with suitable examples.

Or

- (b) Explain in detail about various data distribution metrics used in business analytics.

13. (a) (i) Distinguish between situations using a point estimate, an interval estimate, and hypothesis test. (8)

- (ii) State the uses and important features of exploratory data analysis. (5)

Or

- (b) Distinguish between discrete and continuous random variables.

14. (a) Explain in detail about Grouping and Aggregation operations using map reduce.

Or

- (b) Discuss about the list of tools related to Hadoop.

15. (a) Analyze the use of Hive. How does Hive interact with Hadoop explain in detail.

Or

- (b) Write short notes on:

(i) JAQL (6)

(ii) Sqoop (7)

PART C — (1 × 15 = 15 marks)

16. (a) Formulate how business data analytics helps business people to increase their revenue. Discuss with any one real time application.

Or

- (b) (i) Consider the following MongoDB document with nested array. The document consists of user and his house details.

```
db.users.create (

{

    "_id": "682263",

    "userName" : "uk",

    "email": "uk@abc.edu",

    "password": "67834783uk",

    "houses": [

        {

            "_id": "2178123",

            "name": "purk",

            "rooms": [

                {

                    "name": "4th bedroom",

                    "size": "12"

                },

                {

                    "name": "kitchen",

                    "size": "100"

                }

            ]

        }

    ]

}
```

Write the MongoDB BSON encoding format to perform following operations.

- (1) How to insert a "room" that has the name "store room" and size of "60" for a particular "house" that belongs to this user? (4)
 - (2) How can you delete a "room" that has the name "kitchen" for a particular "house" that belongs to this user? (3)
 - (ii) Identify the key differences between MongoDB and HBase. (8)
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