S.No. : 19

BCADS 1302

No. of Printed Pages : 05

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 15810 Roll No. 1 2 2 0 2 5 8 0 8 2

BCA Examination 2023-24

(Odd Semester)

NoSQL AND DbaaS 101

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION – A

1. Attempt all parts of the following : 8×1=8

   (a) What is SQL?

   (b) What is structured data?

   (c) How does NoSQL relate to big data?

   (d) How to list all the collections in a database?

   (e) Where should you prefer SQL database over NoSQL database?

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(f) What is vertical scaling?

(g) How is JSON different from JavaScript?

(h) What are the different type of NoSQL database systems available?

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) How is MongoDB different from IBM cloudant?

(b) Different between MySQL and MongoDB.

(c) What is map-reduce?

(d) Why is NoSQL preferred for big data?

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each question. 5×8=40

3. (a) Write down the commands to perform the following operations in MongoDB using CLI with appropriate examples :

(i) Create a new empty collection.

(ii) Drop a database.

(iii) Check the name of currently selected database.

(iv) Check all the collections available in a database.

(v) Change the selected database.

(b) What is a key-value pair? What are the rules for defining a key-value pair in JSON?

(c) Where should you use a document-based NoSQL database over a key-value pair based database?

4. (a) What are the features of NoSQL?

(b) What are the limitations of NoSQL?

(c) Describe CAP theorem. Is MongoDB a CP, CA or AP database.

5. (a) Insert the following in MongoDB using embedded document schema :

student-_id	student-_name	age	class	roll_number	siblings
100	XYZ	18	12	20	no

Students Table

Student_id	Phone_number
100	9988999888
100	8899888999

Phone Number Table

Student_id	City	State	Pincode
100	Lucknow	UP	226001
100	Patna	BR	800001

Address Table

(b) Find and fix the error(s) in the following JSON document :

{

Student Name : Prajwal Deep Khokhar;

Student Roll Number = 2022;

Address : Lucknow - UP;

Pin Code : 226001

Student Phone Number = "{9988999888, 8899888999}"

}

(c) What are the different data types available in JSON?

6. (a) Write down the disadvantages of NoSQL databases.

(b) Explain how you can insert data in MongoDB? Aso explain how can we insert an embedded document along with its structure?

(c) Explain the different data models available in MongoDB.

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