

S.No. : 19

BCADS 1302

No. of Printed Pages : 65

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
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## 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

- What is SQL?
- What is structured data?
- How does NoSQL relate to big data?
- How to list all the collections in a database?
- Where should you prefer SQL database over NoSQL database?

**[P. T. O.]**

- (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 :  $2 \times 6 = 12$

- (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.  $5 \times 8 = 40$

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

[P. T. O.]

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? Also 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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