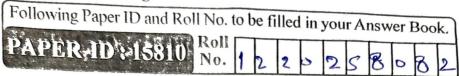
BCADS 1302

No. of Printed Pages: 05



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:

 $8 \times 1 = 8$

- (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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- (1) 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. $5\times8=40$
- 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_num- ber	siblings
100	XYZ	18	12	20	no

Students Table

Stude nt_id	Phone_number
100	9988999888
100	8899888999
Di N	

Phone Number Table

~	-		
Student_id	City	State	Pincode
100	Lucknow	UP	226001
100	Patna	BR	
		DIC	800001

Address Table

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

{

Student Name: Prajwal Deep Khokhar;

Student Roll Number = 2022;

Address: Lucknow - UP;

Pin Code: 226001

Student Phone Number = "{9988999888,

8899888999}"

What are the different data types available in (c) 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.
