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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January 2024 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Computer Science and Engineering **Duration: 3 hrs.**
Course Code: 21CS7PENSD **Max Marks: 100**
Course: NoSQL Database

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

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Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	*CO*	*PO*	Marks
1	a)	Define the following: i. NO SQL ii. MongoDB iii. Cassandra iv. HBase v. Redis	*CO1*	*PO1*	**10**
	b)	Create following records using MongoDB database. { "_id": ObjectId("5ce45d7606444f199acfba1e"), "name": {given: "Alex", family: "Smith"}, "email": "email1@example.com", "age": 31 } { _id: ObjectId("5effaa5662679b5af2c58829"), email: “email@example.com”, name: {given: “Jesse”, family: “Xiao”}, age: 27 } { _id: ObjectId("5effaa5662679b5af2c54567"), email: “email@example.com”, name: {given: “Alen”, family: “Maxwell”}, age: 27 ph:9844098440 } Write queries to do the following in MongoDB 1. To print the first document from the collection 2. To print the documents which consists of phone no.	*CO2*	*PO2*	**5**
	c)	Write a snippet for MongoDB Python database connectivity.	*CO1*	*PO1*	**5**
		UNIT - II			
2	a)	Illustrate the Redis Architecture with neat diagram.	*CO1*	*PO1*	**5**
	b)	Explain the below given document accessing techniques with mongo DB code. i. datetime() ii. find() iii. findone()	*CO1*	*PO1*	**5**

		c)	Write the queries in the MongoDB for the following 1. Create a database Student with USN, Name, age, Gender and Dept. 2. Load the data into Student from local csv file stud_details.csv. 3. Select the students whose age 22 4. Print the name of the students in descending order. 5. Print the number of students belongs to CSE dept.	*CO2*	*PO2*	**10**
			OR			
	3	a)	Describe the HBASE Architecture with suitable diagram.	*CO1*	*PO1*	**10**
		b)	Create movie database for the following fields using key/value data storage. **movie_id** : The key of the hash. **title** : The title of the movie. **release_year** : The year the movie has been released as a numerical value. **Genre** as tags which consists of drama, thriller, comedy, action, horror genre of movie1: drama, thriller, horror genre of movie2: drama, comedy, action Write queries to perform the following operations. i) insert two records into the table ii) retrieve the value of a key iii) list all the tags of movie2 iv) list movie_id, title and release_year of movie1 v) list the movies having genre as drama	*CO2*	*PO2*	**10**
			UNIT - III			
	4	a)	With suitable example discuss joins command in HIVE QL.	*CO1*	*PO1*	**10**
		b)	List and explain the Commands for managing Simple DB domains.Write the commands for the following with respect to REST API usage in amazon simpleDB. i) create a domain simpledb create-domain domain1 ii) Add items to the domain' simpledb put domain1 item1 key1=valueA key2=value2 anotherKey=someValue simpledb put domain1 item2 key1=valueB key2=value2 differentKey=aValue iii) add another attribute-value pair to the domain simpledb put domain1 item1 yetAnotherKey=anotherValue iv) replace an attribute-value pair with a newer one simpledb put-replace domain1 item1 key1=value1 newKey1=newValue1 v) list all domains simpledb list-domains	*CO2*	*PO2*	**10**

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			UNIT-IV			
	5	a)	Illustrate the following in detail: i. MongoDB wire protocol Wire Protocol ii. Storage configuration of B-tree, Hash, Queue and Recno Storage.	*CO2*	*PO2*	**10**
		b)	Demonstrate with sample code to use the Django web framework in connecting NoSQL.	*CO3*	*PO3*	**10**
			UNIT - V			
	6	a)	Mention the need of MongoDB classes. Explain the below given MongoDB classes with examples i. Mongo ii. MongoDB iii. Mongo Collection iv. Mongo Cursor	*CO1*	*PO1*	**10**
		b)	Write queries for the following using PHP driver to access details from MongoDB database. i. Connect to a database and create a collection of your choice. ii. List all the records of a collection. iii. Sort operation. iv Retrieve last three records.	*CO3*	*PO3*	**10**
			OR			
	7	a)	Define post. Explain the following things with an example. i. Adding post ii. Deleting post iii. Modifying post	*CO1*	*PO1*	**10**
		b)	Demonstrate the administration tools available to back up and restore the MongoDB system.	*CO3*	*PO3*	**10**

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