23CBA310N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2025
(Third Semester)

Branch – **COMMERCE (BUSINESS ANALYTICS)**

NO SQL - MONGODB

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	According to the CAP theorem, which of the following is NOT a factor in distributed systems? a) Consistency b) Availability c) Partition Tolerance d) Performance	K1	CO1
	2	Which file is typically used to configure a MongoDB server instance? a) mongod.conf b) mongo.yaml c) config.js d) mongoserver.ini	K2	CO1
2	3	Which Python library is commonly used for parsing CSV files? a) json b) xml.etree.ElementTree c) csv d) xlrd	K1	CO2
	4	Which operator is used to update specific fields in a MongoDB document? a) $set b) $unset c) $update d) $gt	K2	CO2
3	5	What is the correct syntax to sort documents in MongoDB in descending order based on a field age? a) .sort({ age: 1 }) b) .sort({ age: -1 }) c) .orderBy({ age: -1 }) d) .order({ age: 1 })	K1	CO3
	6	The aggregation framework in MongoDB is primarily used to: a) Create collections b) Perform real-time data validation c) Process and transform data in stages d) Create indexes for faster queries	K2	CO3
4	7	Which command is used to drop an index in MongoDB? a) db.collection.removeIndex() b) db.collection.deleteIndex() c) db.collection.dropIndex() d) db.collection.clearIndex()	K1	CO4
	8	What is the purpose of the ObjectId in MongoDB? a) To store binary data b) To uniquely identify documents c) To create indexes on collections d) To aggregate data from multiple collections	K2	CO4
5	9	What is the primary purpose of MapReduce in MongoDB? a) To update documents in a collection b) To aggregate and transform large datasets c) To create indexes for faster query processing d) To replicate data between servers	K1	CO5
	10	In MongoDB's MapReduce, which function processes each input document and emits key-value pairs? a) Reduce function b) Map function c) Group function d) Match function	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Illustrate why an organization might choose to use a NoSQL database over an SQL database.	K2	CO1
		(OR)		
	11.b.	Explain the benefits of using MongoDB for handling large amounts of unstructured data.		
2	12.a.	Use XLRD to extract and display data from an Excel sheet.	K3	CO2
		(OR)		
	12.b.	Construct the CRUD operations in MongoDB?		
3	13.a.	List out the purpose of projection in MongoDB queries?	K3	CO3
		(OR)		
	13.b.	Brief note about the aggregation framework in MongoDB used for?		
4	14.a.	Analyze a user management in MongoDB?	K4	CO4
		(OR)		
	14.b.	Examine the MongoDB Indexes with Create, Find and Drop.		
5	15.a.	Analyze how regular expression (regex) work in MongoDB?	K4	CO5
		(OR)		
	15.b.	Examine the performance of text processing in MongoDB compared to traditional relational databases.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze a MongoDB database schema for a social media application that stores user profiles, posts, and comments.	K4	CO1
2	17	Apply a MongoDB query that uses $exists to find documents where a specific field is missing.	K4	CO2
3	18	Compare the use of $match and $project operators in filtering and shaping the output of an aggregation query.	K5	CO3
4	19	Determine how replication improves data availability in MongoDB.	K5	CO4
5	20	Develop a case study demonstrating how MongoDB and MapReduce can be used together to process and analyze logs from a high-traffic website.	K6	CO5

Z-Z-Z END