

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch – COMMERCE (BUSINESS ANALYTICS)

NoSQL-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	Which type of consistency is commonly associated with NoSQL databases? a) Strong consistency b) Immediate consistency c) Eventual consistency d) Transactional consistency	K1	CO1
	2	What type of data model does MongoDB use? a) Relational model b) Document-based model c) Key-value pair model d) Columnar model	K2	CO1
2	3	What is the primary purpose of the XLRD library in Python? a) To read XML files b) To read Excel files (XLS) c) To parse CSV files d) To process JSON data	K1	CO2
	4	Which of the following is NOT a valid CRUD operation in MongoDB? a) Create b) Read c) Update d) Transfer	K2	CO2
3	5	Which of the following is an example of a field query in MongoDB? a) Finding documents where a specific field exists b) Returning only specific fields from documents c) Sorting documents by field value d) Limiting the number of documents returned	K1	CO3
	6	Which MongoDB method is used to limit the number of documents returned in a query? a) .sort() b) .find() c) .limit() d) .aggregate()	K2	CO3
4	7	Which of the following is a valid way to create a user in MongoDB? a) db.createUser({}) b) db.createAdmin({}) c) mongo.createUser() d) db.addUser({})	K1	CO4
	8	Which of the following tools is used to back up MongoDB databases? a) mongobackup b) mongodump c) mongoexport d) mongosave	K2	CO4
5	9	Which of the following MongoDB operators is used to perform text searches in collections? a) \$regex b) \$text c) \$group d) \$match	K1	CO5
	10	Which MongoDB feature is most suitable for processing and analyzing large text datasets? a) Indexes b) Aggregation Pipeline c) MapReduce d) Replication	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.	Explain how the CAP theorem affects database design.	K2	CO1
		(OR)		
	11.b.	Compare the performance of MongoDB and RDBMS in large-scale applications.		
2	12.a.	Build a script to parse a CSV file and extract specific data columns.	K3	CO2
		(OR)		
	12.b.	Identify how XLRD helps in reading Excel files.		
3	13.a.	Illustrate how sorting and limiting can improve the efficiency of query results.	K2	CO3
		(OR)		
	13.b.	Explain out the main stages of an aggregation pipeline.		
4	14.a.	Analyze about data replication in MongoDB.	K4	CO4
		(OR)		
	14.b.	Compare the performance of a query with and without an index on a large dataset.		
5	15.a.	List out the purpose of the MapReduce function in MongoDB.	K4	CO5
		(OR)		
	15.b.	Classify the common use cases for text processing using MapReduce in MongoDB.		

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	Compare the benefits and challenges of sharing versus replication in MongoDB server configuration.	K4	CO1
2	17	Analyze basic CRUD operations on a MongoDB collection using the Mongo shell.	K4	CO2
3	18	Evaluate the advantages of using an aggregation pipeline over traditional queries in MongoDB.	K5	CO3
4	19	Design a complex database schema in MongoDB that handles multiple types of relationships (one-to-one, one-to-many, and many-to-many).	K5	CO4
5	20	Discuss what MongoDB feature is used for full-text search and text indexing.	K6	CO5

Z-Z-Z

END