23CBA310N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2025
(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 of the following is an example of a document-based NoSQL database? a)MySQL b)MongoDB c)Pl/SQL d) Redis	K1	CO1
	2	MonogoDB stores data in which format? a)CSV b)XML c)BSON d)text	K2	CO1
2	3	In MongoDB, the operator $gt is used for____ a)Patten matching b)Greater than comparison c) Less than comparison d) Checking existence	K1	CO2
	4	What is a fundamental structural difference between XML and JSON? a) XML is used for data, JSON is used for documents. b) XML uses tags, JSON uses key-value pairs and arrays. c) JSON must be validated against a schema, XML does not. d) XML is a subset of JSON.	K2	CO2
3	5	Which MongoDB clause is used to limit the number of documents in the output? a) restrict() b) limit() c) reduce() d) slice()	K1	CO3
	6	Why is projection queries used in MongoDB? a) To delete documents b) To display only selected fields of documents c) To sort documents in order d) To group documents by a field	K2	CO3
4	7	Which tool is used for taking a backup of a MongoDB database? a) mongoexport b) mongodump c) mongoimport d) mongorestore	K1	CO4
	8	Why is replication used in MongoDB? a) To speed up queries b) To ensure data availability and fault tolerance c) To reduce document size d) To split large documents into smaller parts	K2	CO4
5	9	Which two main functions are required in MongoDB MapReduce? a) `map()` and `reduce()` b) `find()` and `aggregate()` c) `limit()` and `sort()` d) `insert()` and `delete()`	K1	CO5
	10	Which scenario best demonstrates the use of `$regex` in MongoDB? a) Finding all students with marks > 90 b) Finding all customer names that start with "R" c) Sorting employee records by salary d) Grouping orders by region	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.	Classify the differences between SQL and NoSQL with suitable examples.	K2	CO1
		(OR)		
	11.b.	Illustrate need for MonogoDB in Big data applications		
2	12.a.	Analyze the structural differences between XML and JSON.	K4	CO2
		(OR)		
	12.b.	Assume you are working with student performance data in MongoDB. How would you apply operators like `$gt`, `$lt`, and `$in` to discover meaningful academic trends?		
3	13.a.	Analyze how projection queries differ from field queries in MonogoDB.	K4	CO3
		(OR)		
	13.b.	Examine the effect of the `$unwind` operator in handling nested array fields in MongoDB. Support your analysis with a suitable example		
4	14.a.	Demonstrate how to create and drop an index in MongoDB with an example.	K3	CO4
		(OR)		
	14.b.	Apply MongoDB commands to create a new user with read and write roles. Show the syntax.		
5	15.a.	Examine how MapReduce differs from the aggregation framework in MongoDB.	K4	CO5
		(OR)		
	15.b.	Contrast the performance of MapReduce with simple query operations in handling large datasets		

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	Show the step-by-step process of importing and exporting data in MongoDB server configuration.	K2	CO1
2	17	Analyse the differences between parsing data from CSV, XLS, XML, and JSON formats. What advantages and limitations does each format present for data extraction?	K4	CO2
3	18	Examine how different aggregation operators (`$match`, `$project`, `$unwind`, `$group`) transform data at each stage of the aggregation pipeline, with a suitable example program	K4	CO3
4	19	Illustrate the creation of different types of indexes (single-field, compound, multikey, text) with example commands.	K3	CO4
5	20	Compare and Contrast the use of regular expressions and text indexes in MongoDB for text searching.	K4	CO5

Z-Z-Z END