Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: MBA (BA)   Semester: III
Program: Big Data Analytics   Time: 03 Hours
Course Code: DSBA 8002   Max. Marks: 100

SECTION A

	Select appropriate option:	Marks	CO
Q1.	1. MongoDB provides high _____ with replica sets. a) performance b) availability c) scalability d) None of the mentioned 2. Point out the correct statement : a) MongoDB cannot be used as a file system b) MongoDB can run over single servers only c) Embedded documents and arrays reduce need for joins d) None of the mentioned 3. Which of the following language is MongoDB written in ? a) Javascript b) C c) C++ d) All of the mentioned 4. MongoDB is a _____ database that provides high performance, high availability, and easy scalability. a) graph b) key value c) document d) All of the mentioned 5. Which of the following are NOT true for Hadoop? a) It's a tool for Big Data analysis b) It supports structured and unstructured data analysis	10X2=20	CO1

c) It aims for vertical scaling out/in scenarios

d) Both (a) and (c)

6. Which of the following are the core components of Hadoop?

a) HDFS

b) Map Reduce

c) HBase

d) Both (a) and (b)

7. Hadoop is open source.

a) ALWAYS True

b) True only for Apache Hadoop

c) True only for Apache and Cloudera Hadoop

d) ALWAYS False

8. What is the default HDFS block size?

a) 32 MB

b) 64 KB

c) 128 KB

d) 64 MB

9. What is the default HDFS replication factor?

a) 4

b) 1

c) 3

d) 2

10. Which of the following is NOT a type of metadata in NameNode?

a) List of files

b) Block locations of files

c) No. of file records

d) File access control information

	SECTION B		
	Attempt all questions.		
Q1.	What are the different types of V's used to describe Big Data?	**5**	**CO2**
Q2.	What are the different characteristics of Big Data?	**5**	**CO2**
Q3.	Describe how the Map Reduce can be used in Hadoop with the help of example.	**5**	**CO2**
Q4.	Explain how nested documents can be created in MongoDB CRUD with examples.	**5**	**CO2**
Q5.	What is a PIG? Specify its Role in Hadoop.	**5**	**CO2**
Q6.	Explain the role of Name node, Data Node and Secondary Name node in HDFS.	**5**	**CO2**
	SECTION-C (50 Marks)		

Q1.	**Write MongoDB query to insert the following documents into a restaurants collection.**
	
	{
	
	  "address": {
	
	    "building": "1007",
	
	    "coord": [-73.856077, 40.848447],
	
	    "street": "Morris Park Ave",
		20	**CO3**

```
    "zipcode": "10462"

  },

  "borough": "Bronx",

  "cuisine": "Bakery",

  "grades": [

    { "date": { "$date": 1393804800000 }, "grade": "A", "score": 2 },

    { "date": { "$date": 1378857600000 }, "grade": "A", "score": 6 },

    { "date": { "$date": 1358985600000 }, "grade": "A", "score": 10 },

    { "date": { "$date": 1322006400000 }, "grade": "A", "score": 9 },

    { "date": { "$date": 1299715200000 }, "grade": "B", "score": 14 }

  ],

  "name": "Morris Park Bake Shop",

  "restaurant_id": "30075445"

}
```

Q2.	**Write MongoDB Query for the movies collection:**	**10X3=30**	**CO3**
	1. Write a MongoDB query to display all the documents in the collection restaurants.		
	2. Write a MongoDB query to display the fields restaurant_id, name, borough and cuisine for all the documents in the collection restaurant.		

3. Write a MongoDB query to display the fields restaurant_id, name, borough and cuisine, but exclude the field _id for all the documents in the collection restaurant.

4. Write a MongoDB query to display all the restaurant which is in the borough Bronx.

5. Write a MongoDB query to display the first 5 restaurant which is in the borough Bronx.

6. Write a MongoDB query to display the next 5 restaurants after skipping first 5 which are in the borough Bronx.

7. Write a MongoDB query to find the restaurants which locate in a latitude value less than -95.754168.

8. Write a MongoDB query to find the restaurants that do not prepare any cuisine of 'American' and their grade score more than 70 and lattitude less than -65.754168.

9. Write a MongoDB query to find the restaurants which belong to the borough Bronx and prepared either American or Chinese dish.

10. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which belong to the borough Staten Island or Queens or Bronxor Brooklyn.