

**MASTER OF SCIENCE (BIOINFORMATICS) (CBCS-2019 COURSE)**  
**M. Sc. (Bioinformatics) Sem-I : WINTER :- 2021**  
**SUBJECT: DBMS & MONGODB**

Day : Monday  
Date 7/2/2022

W-21153-2021

Time : 10:00 AM-01:00 PM  
Max. Marks: 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the Section should be written in Same Answer Book.

**SECTION – I**

**Q.1** Attempt **ANY FIVE** of the following:- **(10)**

- a) Synonyms.
- b) Datamart.
- c) Types of attributes.
- d) Participation constraints.
- e) Handling of bucket overflow.
- f) Redolog.
- g) Datablock.

**Q.2** Attempt **ANY TWO** of the following:- **(10)**

- a) Discuss the term data model and types of data model.
- b) Explain in brief Normalization and different types of Normal form.
- c) Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted.

**Q.3** Answer **ANY TWO** of the following:- **(10)**

- a) Explain concept of indexing and types of indexing.
- b) Draw and explain oracle architecture of system.
- c) Write SQL queries for:-
  - i) Creating a table
  - ii) Drop a table

**SECTION - II**

**Q.4** Attempt **ANY FIVE** of the following:- **(10)**

- a) What is a Namespace in Mongo DB?
- b) What are the data types supported in Mongo DB?
- c) What are Indexes in Mongo DB.
- d) Name storage engine used by Mongo DB.
- e) What is primary key in Mongo DB? How it is generated?
- f) What language is Mongo DB written in?
- g) Basic CRUD commands for document in Mongo DB.

**P.T.O.**

**Q.5** Attempt **ANY TWO** of the following:-

**(10)**

- a) Write a command for :-
- i) Creating Database and collection
  - ii) Insert document
  - iii) Find
  - iv) Drop Database
- b) Explain the following with basic commands:-
- i) Limit
  - ii) Sort
- c) While creating Schema in Mongo DB what are the points need to be taken in consideration?

**Q.6** Answer **ANY TWO** of the following

**(10)**

- a) i) Mention the command to insert document in database called Drug Bank and collection called Drug.
- ii) Find the inserted document.
  - iii) Update with target name.
- b) Explain the following with basic commands:-
- i) Skip
  - ii) Aggregation on Field.
- c) What is Bson in Mongo DB and what are some features of Bson.

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