

Roll Number: _____

SCHOOL OF CHEMICAL AND LIFE SCIENCE
B.Sc. Chemistry (FYUP), SEMESTER-II
SEMESTER EXAMINATION, NOVEMBER 2022
PAPER CODE: BCH MDC 201
PAPER TITLE: DATABASE AND DATA MINING

Time: 2 Hours

Maximum Marks: 45

Attempt all questions. All parts of a question must be attempted in continuation. Start the answer to the next question on a new page. Cite examples and draw labeled diagrams wherever necessary.

Q. 1: Multiple choice questions. Select the most appropriate and put a tick mark (✓) against the same **[1x5=5]**

a. Which of the following Process is not involved in data mining Process?

- i. Data Exploration
- ii. Data Archaeology
- iii. Data Transformation
- iv. Knowledge Extraction

b. Which of the following Process uses Intelligent methods to Extract Data Pattern.

- i. Data Mining
- ii. Text mining
- iii. Warehousing
- iv. Data selection.

c. Which of the following statement is True regarding Classification

- i. It is a measure of Accuracy
- ii. It is a subdivision of a set.
- iii. It is the task of assigning a Classification.
- iv. None of the above

d. Which Data structure is used in Hierarchical Model?

- i. Graph
- ii. Tree
- iii. Linked list
- iv. Stacks

e. which is the lowest level of Abstraction that describes how the data are actually stored?

- i. Physical
- ii. Abstract

iii. View

iv. User

Q. 2: What is Data Mining? Explain how the evolution of Database technology led to Data mining? Describe the steps involved in Data mining when viewed as a process of Knowledge Discovery. [10 marks]

OR

How do database systems contribute to data consistency and why is data consistency important in various applications?

[10 marks]

Q. 3: Write short note on **ANY FOUR** of the following:

[4x5=20]

- a. The Data Mining Functionalities? The Data Warehouse Applications?
- b. What do you mean by Data base System? Explain five purposes of Database system?
- c. Explain about Basic Decision tree Induction Algorithm and Rule induction using a Sequential covering Algorithm?
- d. Various steps in Data Pre-processing? And what is Data Integration and Data Transformation?
- e. The evolution of Data Models and The importance of Data Models?
- f. Explain the three Level Architecture of DBMS and the Degrees of Data Abstraction?

Q. 4: Compare the following with suitable examples (**ANY TWO**).

[5x2=10]

- a. Prediction and Classification Methods?
- b. The K-Nearest Neighbour classifier and Case based Reasoning?
- c. Bayesian Classification and Data mining Primitives?
- d. Advantages and Disadvantages of Eager Classification and Lazy Classification?
- e. Decision Tree Classification and Rule-based Classification?
- f. The E-R model and The Hierarchical model?

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