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**MANIPAL INSTITUTE OF TECHNOLOGY**  
(A constituent unit of MAHE, Manipal 576104)

**I SEM M. Tech (Medical Informatics) DEGREE END-SEMESTER EXAMINATIONS, Jan 2023.**

**SUBJECT: FEDM (BME 5174)**  
**(REVISED CREDIT SYSTEM)**

**Tuesday, 5<sup>th</sup> January, 2022, 9.30AM To 12.30 PM**

**TIME: 3 HOURS**

**MAX. MARKS: 50**

**Instructions to Candidates:**

1. Answer ALL questions.
2. Draw labeled diagram wherever necessary

Sl.No	Question	Marks
1A	“Data pre-processing is necessary before data mining process”. Justify your answer.	3
1B	Illustrate KDD in data mining as a step in the process of knowledge discovery.	4
1C	Interpret major issues in Data mining.	3
2A	Interpret the following: a) Data Integration b) Data Transformation methods	4
2B	Illustrate the technique “Data discretization”.	3
2C	Interpret the necessity of Dimensionality reduction methods.	3
3A	Explain the importance of feature engineering and selection process.	3
3B	Compute the fundamental steps involved in Digital image processing.	4
3C	Briefly describe image classification with a flow chart.	3
4A	Compute different schemas in multidimensional data model.	3
4B	Justify “A data warehouse is a subject-oriented, integrated, time-variant, and nonvolatile collection of data in support of management’s decision-making process.”	4
4C	Briefly illustrate the Data warehouse architecture with OLAP technology.	3
5A	Explain about the Apriori algorithm for finding frequent item sets with an example.	3
5B	Illustrate the Quantitative association rules.	4
5C	Interpret Design of Data Warehouse: A Business Analysis Framework.	3