PAPER ID-310062

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM VII) THEORY EXAMINATION 2024-25
DATA WAREHOUSING AND DATA MINING

TIME: 3 HRS **M.MARKS: 100**

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

Q no.	Question	CO	Level
a.	Describe the needs for data mining and its significance.	1	K2
b.	List the drawbacks of the K-mean algorithm.	1	K1
c.	Illustrate the data warehousing process and outline its strategies.	2	K2
d.	Define the terms "Support" and "Confidence" used in data mining.	2	K2
e.	Define the characteristics of information retrieval.	3	K3
f.	List the key steps in the Apriori algorithm.	3	K1
g.	Explain the concept of classification and its role in predictive analysis.	4	K2
h.	Discuss the concept of clustering and differentiate it from classification.	4	K4
i.	Write a short note on "Binning" as a data preprocessing method.	5	K2
j.	Draw a diagram illustrating the key steps of the data mining process.	5	K2

SECTION B

2. Attempt any *three* of the following: **10 x 3 = 20**

Q no.	Question	CO	Level
a.	Explain the key concepts and characteristics of intelligent agents, including their role in AI systems.	1	K2
b.	Prove the validity of the given statement: "If prices fall, then sell increases. If sell increases, then John makes the whole money. But John doesn't make the whole money. Therefore, prices do not fall."	2	K3
c.	Describe the use of first-order predicate logic in knowledge representation and reasoning systems.	3	K2
d.	Discuss negotiation and bargaining techniques among agents and their role in multi-agent systems.	4	K4
e.	Explain AI applications in natural language processing, focusing on machine translation and speech recognition.	5	K2

SECTION C

3. Attempt any *one* part of the following: **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Define the four categories of Intelligent Systems.	1	K1
b.	Define Artificial Intelligence and list the six disciplines required for an Intelligent System to pass the Turing Test.	1	

4. Attempt any *one* part of the following: **10 x 1 = 10**

Q no.	Question	CO	Level
a.	Enumerate the steps involved in mapping a data warehouse to a multiprocessor architecture.	2	K1

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b.	Explain the warehouse management and support process, highlighting its importance in data storage and retrieval.	2	K2

5. Attempt any *one* part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Describe data cubes with a suitable example, explaining their role in multi-dimensional data representation.	3	K2
b.	Describe the concept hierarchy and provide an example to illustrate its use in data organization.	3	K2

6. Attempt any *one* part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Draw a diagram of the abstract model for interoperating software agents.	4	K4
b.	Explain the concept of trust and reputation in multi-agent systems with suitable examples.	4	K2

7. Attempt any *one* part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Describe the role of computer vision in artificial intelligence, including its applications.	5	K2
b.	Define pattern recognition and explain the design principles of pattern recognition systems with suitable examples.	5	K2