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Total No. of Pages : 02

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**B.Sc (IT) (Sem.–5)**  
**DATA WAREHOUSE AND MINING**

Subject Code : UGCA1931

M.Code : 90392

Date of Examination : 10-12-2024

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

**SECTION-A**

**1. Explain briefly:**

- a) Define Data Warehouse.
- b) Name some schemas for multi-dimensional data.
- c) What are data cubes?
- d) Name some open source data mining tools.
- e) Differentiate classification and clustering.
- f) What is a data mart?
- g) What is decision tree induction?
- h) What is precision?
- i) What is the significance of high false negative results?
- j) Let us suppose that there are 200 pages available on Internet for machine learning. The search on this term returns total 210 pages, out of which 190 belongs to Machine Learning, calculate precision and recall for our algorithm.

**SECTION-B**

2. What is Data Mining and explain the knowledge discovery process.
3. What is classification? Explain its process. How do we evaluate classifier's accuracy?

4. The distance between some Indian cities are given below, apply the clustering algorithm to make three clusters. Indicate intermediate steps.

	<b>Bathinda</b>	<b>Patiala</b>	<b>Delhi</b>	<b>Amritsar</b>	<b>Mathura</b>
<b>Bathinda</b>	0	190	400	250	460
<b>Patiala</b>	190	0	240	225	300
<b>Delhi</b>	400	240	0	450	60
<b>Amritsar</b>	250	225	450	0	510
<b>Mathura</b>	460	300	60	510	0

5. What is OLAP? Explain its architecture, characteristics and multi dimensional view.
6. **Write short notes on :**
- a) Metadata and its types.
  - b) Data Cube Computation.
7. Explain the process of association rule mining by taking a suitable example.

**NOTE: Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**