

19/12/19 (E)

Roll No.

Total Pages : 3

220505

December, 2019

MCA V SEMESTER

Data Warehousing and Data Mining (MCA-17-309(vi))

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) Define Data warehouse. (1.5)
- (b) What is a Concept hierarchy? (1.5)
- (c) Define Data Cube. (1.5)
- (d) What is Bitmap Indexing? (1.5)
- (e) Differentiate between supervised Learning and Unsupervised Learning. (1.5)

- (f) What do you mean by continuous data in data mining? (1.5)
- (g) Differentiate between Pre-Pruning and Post-Pruning. (1.5)
- (h) What is a Data Mart? (1.5)
- (i) List 4 applications of data Mining. (1.5)
- (j) Define Web Mining. (1.5)

PART - B

- 2. (a) How is datawarehouse different from a database? How is it similar? (10)
- (b) Explain various schemas of a datawarehouse. (5)
- 3. (a) A database has four transactions. Let min_sup=60% and min_conf=80%

TID	ITEMS_BOUGHT
T100	{K, A, D, B}
T200	{D, A, C, E, B}
T300	{C, A, B, E}
T400	{B, A, D}

Find all frequent item sets using Apriori.

- List all of the strong association rules (with support s and confidence c) matching the following metarule, where X is a variable representing customers and $item_1$ denotes variables representing items:
- $\forall x \in \text{transactions}, \text{buys}(X, \text{item}_1) \wedge \text{buys}(X, \text{item}_2) \wedge \Rightarrow \text{buys}(X, \text{item}_3).$ (10)
- (b) Explain various back-end tools and utilities used in a datawarehouse. (5)

- 4. (a) Outline the major steps of Decision Tree Classification. (10)
- (b) Explain Constraint based Association Mining. (5)
- 5. (a) What is Data Mining? Explain Data Mining as a step process in Knowledge discovery from Databases. (10)
- (b) Explain any two Attribute Selection Measures. (5)
- 6. What is DMQL? Explain data mining task primitives for specifying a data mining task. (15)
- 7. Write short notes on (any two) :
 - (a) 3-tier Architecture of DataWarehouse.
 - (b) Classification using Backpropogation.
 - (c) Various Clustering Techniques. (15)