

**B.SC. (I. T.) SEM. - V (CBCS - 2015 COURSE) : WINTER -
2017**

SUBJECT: DATA WAREHOUSING AND DATA MINING

Day : **Saturday**
Date : **30/12/2017**

Time: **10.00 A.M. TO 01.00 P.M.**
Max. Marks: 60

W-2017-0859

N.B.:

- 1) Answer **ANY SIX** questions.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagram **WHEREVER** necessary.

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- Q. 1** Differentiate: **(10)**
- a) OLTP Vs OLAP
 - b) Data Warehouse Vs Data Mart
- Q. 2** a) Explain Fact table and Dimension table with an example. **(04)**
- b) Explain Materialized view with an example. **(06)**
- Q. 3** a) Explain different operations that can be performed in OLAP with examples. **(06)**
- b) Explain the terms staging Area, Data Marts and Cubes. **(04)**
- Q. 4** a) With respect to Association Rule Mining define: **(04)**
- i) Support
 - ii) Confidence
- b) Find the frequent item sets in the following database of nine transactions with a minimum support 50 % and confidence 50 % **(06)**

Transaction ID	Items Bought
2000	A, B, C
1000	A, C
4000	A, D
5000	B, E, F

- Q. 5** Suppose that a data warehouse consists of the three dimensions time, doctor and patient, and two measures count and charge, where charge is the fee that a doctor charges a patient for a visit. **(10)**
- a) Enumerate three classes of schemes that are popularly used for modeling data warehouses.
 - b) Draw a schema diagram for the above data warehouse using one of the schema classes listed in (a).
 - c) Starting with the base cuboid (day; doctor; patient), what specific OLAP operations should be performed in order to list the total fee collected by each doctor in 2004?
 - d) To obtain the same list, write an SQL query assuming the data is stored in a relational database with the schema fee (day, month, year, doctor, hospital, patient, count, charge).

P. T. O.

- Q. 6** a) Differentiate between normal view and materialized view. **(05)**
b) What do you mean by Aggregate functions? Explain with suitable example. **(05)**
- Q. 7** a) What are different challenges involved in designing Data Warehouse? **(05)**
b) Differentiate between Star schema and Galaxy schema. **(05)**
- Q.8** Write short notes on: **(10)**
a) Data Warehouse Architecture
b) Data Mining Techniques

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