

2125

M.E. (Computer Science and Engineering)

First Semester

Elective - I

CS-8107: Business Intelligence

(For UIET)

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

- Q1 (i) What are major Business applications of BI?
 (ii) Why there is a need of data integration?
 (iii) List and describe five distinguishing features of key performance indicators.
 (iv) How can big data analytics help ease the traffic problem in large cities?
 (v) What are the common business problems addressed by Big Data analytics?

(5x2)

Section- A

- Q2. (a) Make a comparison of features of OLTP and OLAP systems. (3)
 (b) What is a performance measurement system? How does it work? (3)
 (c) Describe the three steps of the ETL process. Why is the ETL process so important for data warehousing efforts? (4)
- Q3. (a) Describe the different approaches used for data integration. (5)
 (b) What is SMART test for ensuring metric relevance to business? Discuss the supply chain associated with the metric. (5)
- Q4. (a) What is data profiling? When and how is data profiling conducted? Explain. (5)
 (b) Suppose that a data warehouse consists of the four dimensions, date, spectator, location, and game, and the two measures, count and charge, where charge is the fare that a spectator pays when watching a game on a given date. Spectators may be students, adults, or seniors, with each category having its own charge rate.
 (i) Draw a star schema diagram for the data warehouse.
 (ii) Starting with the base cuboid [date; spectator; location; game], what specific OLAP operations should one perform in order to list the total charge paid by student spectators at GM Place in 2004? (5)

Section- B

- Q5. (a) What is balanced score card? What are the basic steps required in design of the balanced scorecard? (5)
 (b) What is NoSQL? How does it fit into the Big Data analytics picture? (5)
- Q6. (a) What is a business report? What are the main characteristics of a good business report? (5)
 (b) What is a stream (in the Big Data world)? What is stream analytics? How does it differ from regular analytics? (5)
- Q7. (a) Explain various types of analysis such as "performance analysis", "channel analysis", and "funnel analysis". Give suitable examples. (5)
 (b) What is Hadoop? What are the main Hadoop components? What functions do they perform? (5)

x-x-x