Student's Copy

Professional Course Examination, May 2023
(6th Semester)

BACHELOR OF COMPUTER APPLICATIONS
(Data Warehousing)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(PART : A—OBJECTIVE)
(*Marks* : 25)

SECTION—I

(*Marks* : 15)

A. Tick (✓) the correct answer in the brackets provided :   1×10=10

1. The synonym for data mining is
   (a) data warehouse   (   )
   (b) knowledge discovery in database   (   )
   (c) extract, transform and load (ETL)   (   )
   (d) business intelligence   (   )

2. Which of the following is not a function of data warehouses?
   (a) Characterization and discrimination   (   )
   (b) Classification and regression   (   )
   (c) Selection and interpretation   (   )
   (d) Clustering and analysis   (   )

3. An operational system is which of the following?
   (a) The business in real time and is based on historical data.   (   )
   (b) The business in real time and is based on current data.   (   )
   (c) Support decision making and is based on current data.   (   )
   (d) Support decision making and is based on historical data.   (   )

4. _____ is a good alternative to the star schema.
   (a) Fact constellation   (   )
   (b) Star schema   (   )
   (c) Snowflake schema   (   )
   (d) Star-snowflake schema   (   )

5. A data warehouse is which of the following?
   (a) Can be updated by end users   (   )
   (b) Contains numerous naming conventions and formats   (   )
   (c) Organized around important subject areas   (   )
   (d) Contains only current data   (   )

6. Which of the following technologies is not well-suited for data mining?
   (a) Expert system technology   (   )
   (b) Data visualization   (   )
   (c) Parallel architecture   (   )
   (d) Technology limited to specific data types such as numeric data types   (   )

7. Most common kind of queries in a data warehouse are
   (a) Inside-out queries   (   )
   (b) Outside-in queries   (   )
   (c) Browse queries   (   )
   (d) Range queries   (   )

8. Which of the following features usually applies to data in a data warehouse?
   (a) Data are often deleted   (   )
   (b) Data are rarely deleted   (   )
   (c) Most applications consist of transactions   (   )
   (d) Relatively few records are processed by applications   (   )

9. Concept description is the basic form of the
   (a) predictive data mining   (   )
   (b) descriptive data mining   (   )
   (c) data warehouse   (   )
   (d) relational database   (   )

10. Web mining techniques do not include
   (a) cookies ( )
   (b) clustering ( )
   (c) user identification ( )
   (d) web content personalization ( )

B. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

1. Data warehouse architecture is based on RDBMS.
   (T / F)
2. The type of relationship in star schema is many to many.
   (T / F)
3. The goal of data mining is to explain some observed event or condition.
   (T / F)
4. Transaction processing is not a kind of data warehouse application.
   (T / F)
5. Stationary database is not a type of data warehouses.
   (T / F)

SECTION—II

(*Marks* : 10)

C. Answer any *five* of the following in *one* or *two* sentences each : 2×5=10

1. What are the two important features of data warehouse?
2. What are the two major driving forces of data warehousing?
3. What are the two applications of data mining?
4. What are the two significant roles of metadata?
5. What are the advantages of the star schema?
6. What is a data alert?
7. What is a fact table?

(**PART : B—DESCRIPTIVE**)

(*Marks* : 50)

D. Answer the following questions : 10×5=50

1. *(a)* What is data warehouse? Explain the past and present decision-support system of data warehouse. 2+8=10

OR

(b) What is data mining? Explain the building block and its components of data warehouse in detail. 2+8=10

2. (a) Explain the following with suitable example : 5×2=10

(i) Web-enabled data warehouse

(ii) Business requirements of Data warehouse

OR

(b) Write in brief about the following : 5×2=10

(i) Requirement gathering methods

(ii) Continued growth in data warehouse

3. (a) Explain the storage specification and information delivery of data warehousing. 10

OR

(b) Explain data warehousing architecture framework with suitable example. 10

4. (a) Mention hardware and software operating system and database software requirement for establishment of data warehousing. 10

OR

(b) Explain the significant roles of business metadata and technical metadata for successful implementation of data warehousing. Mention the characteristics of Web data. 10

5. (a) Explain the following terms of data warehouses : 5×2=10

(i) Star schema of data warehouses

(ii) Advantages of star schema of data warehouses

OR

(b) Explain the essential basics of data mining. Write the application of data mining. 10

★ ★ ★