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Question Paper Code: U8304

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Professional Elective

Computer Science and Engineering

21ITV304 DATAWAREHOUSING

(Common to IT, CSBS & CSD Engineering branches)

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is virtual warehouse? CO1- U
2. Compare data mart and data warehouse. CO1- U
3. Differentiate between OLAP with OLTP. CO1 -U
4. What are steps used in Delivery Process of the Data warehouse? CO1 -U
5. Why is partitioning used in Hive? CO2 -App
6. Apply the concept hierarchy for the dimension location (India , Pakistan, Delhi , Islamabad). CO2 -App
7. How is Data warehouse analysis helpful in business process? CO1 -U
8. Define star schema and its types. CO1 -U
9. Differentiate between System Manager and Process Manager. CO1 -U
10. What are the Functions of Warehouse Manager? CO1 -U

PART – B (5 x 16= 80 Marks)

11. (a) Illustrate the design process of the three tier data warehousing architecture. CO1 -U (16)
- Or
- (b) Outline the concepts of Knowledge Data mining Discovery Process. CO1 -U (16)

12. (a) Apply the Roll Up and Drill down by using the data of the sales is represented as a two dimensional table. Let us consider the data according to item, time and location (like Kolkata, Delhi, Mumbai). CO2 -App (16)

Time	Location="Kolkata"			Location="Delhi"			Location="Mumbai"		
	item			item			item		
	Milk	Egg	Bread	Milk	Egg	Bread	Milk	Egg	Bread
Q1	340	604	38	335	365	35	336	484	80
Q2	680	583	10	684	490	48	595	594	39
Q3	535	490	50	389	385	15	366	385	20

Or

- (b) Apply the Roll Up and Drill down by using the data of a factory which sells products per quarter in Bangalore. The data is represented in the table given below : CO2 -App (16)

Location = "Bangalore"				
Time (quarter)	Type of item			
	Jam	Bread	Sugar	Milk
Q1	350	389	35	50
Q2	260	528	50	90
Q3	483	256	20	60
Q4	436	396	15	40

13. (a) Explain in detail the implementation of "Metadata Repository". CO1 -U (16)

Or

- (b) Discuss briefly about the Partition Strategy with suitable example. CO1 -U (16)

14. (a) Design a data warehouse for a regional weather bureau. The weather bureau has about 1,000 probes, which are scattered throughout various land and ocean locations in the region to collect basic weather data, including air pressure, temperature, and precipitation at each hour. All data are sent to the central station, which has collected such data for over 10 years. Your design should facilitate efficient querying and on-line Analytical processing, and derive general weather patterns in multidimensional space. CO2 -App (16)

Or

(b) Apply the Snowflake schemas for a BANKING.COM in Data-warehouse. CO2 -App (16)

15. (a) Explain in detail with System Event Manager and System Database Manager. CO1 -U (16)

Or

(b) Explain in detail about Query manager architecture in process architecture with neat diagram. CO1 -U (16)

