|  |  |  |  |
| --- | --- | --- | --- |
|  |  |

|  |
| --- |
|  |

 |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **M.Sc - II SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2022****(Examination conducted in JULY 2022)** |
| **CS 8121- Advanced Database Management System** |
|  |  |  |
| **Time- 2 ½.hrs** |  | **Max Marks-70** |
|  |  |  |
| **This paper contains four printed page three parts.****PART A**  |

**ANSWER ALL THE QUESTIONS 1 x 15 = 15**

Register Number:

Date:

1. The \_\_\_\_\_\_\_\_\_\_\_\_ scheme uses a page table with pointers to all pages; the page table itself and all updated pages are transfered to a new location.

a) Shadow copy b) Shadow Paging c) Update log records d) All of the options.

2. Which one of the following is related to system failure?

 a) Boot crash b) Read failure c) Transaction failure d) All of the mentioned

3. Which of the following method is to obtain the necessary locks for a transaction where all necessary locks are acquired before any are released?

 a) Two phase lock b) Exclusive lock c) shared lock d) Record controller

4. In order to achieve the consistency during transactions database provides

 a) Commit b). Atomic c) Abort d) restore

5. Which one of the following commands is suitable for removing (or deleting) a record from the SQL database?

 a) Delete b) Drop c) Remove d) All of the above

6. The given Query can also be replaced with\_\_\_\_\_\_\_: SELECT name, course\_id FROM instructor, teaches WHERE instructor\_ID= te aches\_ID;

a) Select name,course\_id from teaches,instructor where instructor\_id=course\_id;

b) Select name, course\_id from instructor natural join teaches;

c) Select name, course\_id from inner join instructor;

d) Select course\_id from instructor outer join teaches;

7. The problem of concurrency control is not more complex in a distributed database.

 a) False b) True

### 8. To improve the throughput and response time of the system particularly when there are many of smaller queries, which type of parallelism is most likely to perform better?

a) Intra-query parallelism

b) Inter-query parallelism

c) Inter-operation parallelism

d) Intra-operation parallelism

9. Identify among the following that is related to the system of data warehousing.

a) Reporting and data analysis

b) Data cleaning and data storage

c) Data storage and mining

d) Data merging and Data mining.

10. Who is involved for executing queries and reports against data warehouse tables?

a) Software

b) Hardware

c) Middle ware

d) End – users

11. What are the way to prevent the failure of the transaction?

 a) Copy and transfer

 b) Mirroring

 c) Commit

 d) Abort.

12. What can be the key that supports to search the data?

 a) Primary key

 b) secondary key

 c) candidate key

 d) Alternate key

13. Which of the following is suitable for making the database more efficient?

 a) Normalization

 b) Editing

 c) Updating

 d) Modifying

14. The database can be logically view in the

 a) External phase

 b) Conceptual phase

 c) Physical phase

 d) Any of the phases.

15. The cost of transaction can be verified by

 a) Query optimization

 b) Query modifying

 c) Converting the query

 d) Maximizing the select option.

**PART B**

**ANSWER ALL THE QUESTIONS 5 X 5 = 25**

16. How is Query Processor helpful in execution of commands?

 OR

 Describe how select and project is different in relational algebra.

 Give examples.

17. Explain the lock based concurrent control with transaction examples.

 OR

 Explain any one recovery technique to restore the relations during the failures.

18. Differentiate between inter and intra query processing with example.

 OR

 How is distributed Database system different from Client Server Database system?

19. Describe any one Data Warehouse Model.

 OR

 Write the disadvantages of Data Warehouse.

20. Write a note on a) Inside Fact Table b) Fact Less Fact Table

 OR

 Write a note on a) Multi-dimensional data b) Multi Cube.

**PART C**

**ANSWER ANY THREE THE QUESTIONS. 10 X 3 = 30**

21. How are Timestamp based Concurrency Control prevent the conflicts of 10

 Concurrent Transactions?

22. a) Explain the Security measure to protect the access control of the database. 5

 b) Explain the commit protocol in distributed database system. 5

23. a) Describe the role of OLTP Systems in Data Warehouse. 5

 b) Explain Top- Down and Bottom-Up Development Methodology in data ware house. 5

24. a) Explain ER Modeling Verse Dimensional Modeling 5

 b) Write a note one i) ROLAP ii) HOLAP 5