Sylhet Engineering College, Sylhet

Department of Computer Science & Engineering

3rd year 2nd Semester Final Examination

Course Title: Database Management System

Course Code: CSE 501 Time: 3:00(Three) hours Full marks: 70

N.B.:(i) Answer any 4 questions (ii) Special Instruction(if any)----------N/A----------

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PART - A

(Answer any two question)

1.

(a) What are advantages of DBMS over traditional file based systems? 4

(b) What are super, primary, candidate and foreign keys? 4

(c) What are the differences between DDL, DML and DCL in SQL? 7

(d) What is the difference between having and where clause? 5

(e) What is the difference between Trigger and Stored Procedure? 3

2.

(a) What are different features of an RDBMS? 3

(b) What are clustered and non-clustered Indexes? 2

(c) What is a database transaction? 2

(d) What is a database deadlock? 4

(e) What is ACID Property in Database? 4

3.

(a) Explain the purpose of the checkpoint mechanism. How often should checkpoints 3

(b) What are the standard SQL commands every SQL developer should know? 2

(c) What is a NULL value and how does it differ from a zero value? 2

(d) What are the various types of relationships in Database? 2

(e) hat do you understand by Data Independence? What are its two types? 4

PART - B

(Answer any two question)

4.

(a) What does UNION do? What is the difference between UNION and UNION ALL?

3

(b) What are the main scan operators for a hash index?

1

(c) How are scans used with JDBC?

1

(d) What is the stride of a window in a continuous query? (

6

(e) Why is often a simplified SQL used in cloud databases?

5

5.

(a) What different kinds of transparency are handled by distributed, parallel, and federated databases?

8

(b) Explain the differences between distributed, parallel, and federated databases.

7

(c) How is autonomy handled by distributed, parallel, and federated databases?

5

6.

(a) What is a tumbling window in a continuous query?

3

(b) What is a stop condition and why is it needed in continuous queries but not in regular database queries?

6

(c) Why are window joins needed in continuous queries?

4

(d) Why are window join operators approximate?

6

(e) What is a scan?

2

(f) Give examples of valid block sizes. Is 256 bytes a valid block size? 2048? 51200?

6