



**TERTIARY AND VOCATIONAL EDUCATION COMMISSION**  
**COMMON WRITTEN EXAMINATION**



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<b>NVQ Level 05 – Semester II</b>		
<b>Information &amp; Communication Technology</b>		
<b>Database Systems 11 – Theory</b>	<b>K72T001M02</b>	<b>Three Hours</b>
<b>Answer only 03 questions (Question 01 and 02 are COMPULSORY)</b>		

**Consider the following relations containing airline flight information:**

Flights (Flightno: int, From: varchar(50), To: varchar(50), Distance: int, Departs: datetime, Arrives: datetime)

Aircraft (Aircraftid: int, Aircraftname: varchar(50), Maxdistance: int)

Certified (Empid: int, Aircraftid: int)

Employees (Empid: int, Empname: varchar(50), Salary: int)

Note that the Employees relation describes pilots and other kinds of employees as well. Every pilot is certified for some aircraft (otherwise, he or she would not qualify as a pilot), and only pilots are certified to fly.

**Question 01**

- 1.) List four data manipulation (DML) commands in SQL. (Marks 04)
- 2.) Define four aggregate functions in SQL? (Marks 04)
- 3.) Write the SQL statement required to create the above 'Certified' table, including appropriate versions of all primary and foreign key integrity constraints. (Marks 05)
- 4.) Write SQL statement to delete all information about employees who make the highest salary. (Marks 06)
- 5.) What is difference between DELETE & TRUNCATE commands? (Marks 06)

**Question 02**

Write the SQL queries for the following.

- 1.) Find the Empids of pilots certified for 'Boeing' aircraft. (Marks 05)



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- 2.) Find the distinct names of pilots certified for 'Boeing' aircraft. (Marks 05)
- 3.) Find the Empids of employees who make the highest salary. (Marks 05)
- 4.) Find the average salary of a pilot. (Marks 05)
- 5.) Find the Empids of employees who make the second highest salary. (Marks 07)
- 6.) For each pilot who is certified for more than three aircraft, find the Empid and the Maxdistance of the aircraft that he (or she) is certified for. (Marks 07)
- 7.) For all aircraft with Maxdistance over 1,000 miles, find the name of the aircraft and the average salary of all pilots certified for this aircraft. (Marks 08)
- 8.) Find the distinct Empnames of pilots who can operate planes with Maxdistance greater than 3,000 miles, but are not certified on any 'Boeing' aircraft. (Marks 08)

**Question 03**

- 1.) Create a view to display Empname, salary of employees who make the highest salary. (Marks 05)
- 2.) Explain two Cursor attributes. (Marks 04)
- 3.) Write a code to display the Empid, Empname of Employees with CURSOR WHILE LOOP Statement. (Marks 08)
- 4.) Name four applications for triggers? (Marks 08)

**Question 04**

- 1) Write three advantages of using stored procedures? (Marks 06)
- 2) Suggest two ways in which a database developer might increase the performance of database transactions. (Marks 06)
- 3) What is Deadlock? (Marks 04)
- 4) How exceptions can be handled in SQL Server Programming? (Marks 04)
- 5) What is the difference between COMMIT and ROLLBACK? (Marks 05)