**Database Security**

1. Define Integrity. Write the types of access matrix.
2. In a database system there are different types of users like System Admin “S”, Database Administrator “X”, unregistered user “U”. On that system there are two relation R1 and R2.

R1 (R1a1, R1a2, R1a3)

R2 (R2a1, R2a2, R1a3) **{Relation with Attributes}**

In those tables “S” can update in attribute R1a2,delete in attribute R2a3. User “X” can insert in relation R1, modify attribute R1a3. Unregistered user only can view R2a1. He also governance the work of user “S”. Another database administrator user “Y” works as an in-charge in absence of user “X” and have to maintain all responsibility of “X”.

**For the above case study, which security matrix will be suitable? Build the technique and explain.**

1. **Read the case carefully:**

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There is another user “Z” who is responsible to monitor all the users’ activities.

**For the above case study, which security matrix will be suitable? Build the technique and explain.**

1. **Read the scenario carefully and answer the Question**.

“A security agency who provides service to ATM Booth every day. The Office manager gets the ordered amount from bank. Then handover that to In-charge. The in-charge takes all the money to the destination Booth with two guards. After that he hand over the money to Booth Manager. Finally the booth manager put the money to each machine.”

What ***access control technique*** should be built into the application to meet the information protection needs and why? Build that Technique.

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“The accounting branch of a large organization requires an application to process expense vouchers. Each voucher must be input by one of many accounting clerks, verified by the clerk’s applicable supervisor, and then reconciled by an auditor before the reimbursement check is produced.”

What ***access control technique*** should be built into the application to meet the information protection needs and why? Build that Technique.

1. **Read the scenario carefully and answer the Question**.

“In a Chemistry Lab, All chemical are listed by Lab Assistants, Ordered by Lab In-charge and brought by Lab Clerk. When chemical are arrived Lab Assistants receive them and arrange that. On that time Lab In-charge check out the list and ensure the chemical. Not only that when a user comes to lab for chemical, Lab Assistants helps him to use under the supervision of Lab In-charge.”

What ***access control technique*** should be built into the application to meet the information protection needs and why? Build that Technique.