Encapsulation and Data Security :-

Encapsulation restricts direct access to an object's data by :

i) Declaring variables as private.
ii) Allowing control access through public methods.

This prevents unauthorized modification and ensures that only valid data is stored.

How it ensures integrity :-

i) Invalid values are rejected.
ii) Business rules are enforced at a single point.
iii) objects remains in a consistent and secure state.

Example: BankAccount class

```
public class BankAccount{
    private string accountNumber;
    private double balance;
public void setAccountNumber (String accountNumber){
  if(accountNumber==null || accountNumber.trim().isEmpty()
   throw new IllegalArgumentException("Invalid account");
    }
 this.accountNumber = accountNumber;
}
public void setInitialBalance(double balance){
     if(balance<0){
 throw new IllegalException("Balance can not be negative");
  }
 this.balance = balance;
}
public String getAccountNumber(){
   return accountNumber;
}
public double getBalance(){
   return balance;
}
}
```