**Q1.a) Difference between tight coupling and loose coupling.**

**Tight coupling : -**  When one component is depended on other component that create in change in one component effect changes in other component that is tight coupling.

**loose coupling : -**  Loose coupling state that change in one components hardly effect the other component that is loose coupling

**Q1. b) What is the Difference between High Cohesion and Low Cohesion? Also provide Examples**

**High Cohesion**  :- If a component has only one purpose job and that component accomplish it in well manner than that component is high cohesion component. High Cohesion components are easy to maintain and easy in reusable

Example : Suppose there is a component which do only task related to registering a user than that component come under high cohesion.

**Low Cohesion : -** If a component have more than one purpose of job like creating accounts, send mails, providing login facilities, etc than that component is Low Cohension . Low Cohension components are hard to maintain and also understand and reduces re-usablity

Example : - component have a lot of function like - > send mails, login , show user list , receiving mails ,

**Q2 a) Explain DRY principle and how can we achieve it.**

**DRY :**  DRY stand for Don’t Repeat Yourself . The principle is simple said avoid writing of same code again and again . We can achieve this by dividing the code into small small login or using of methods because methods or functions are reusable and providing the similier kind of task whenever place they will call**.**

**Q2 b) Explain the KISS principle with Example.**

**KISS : -**  KISS stand for keep it simple,stupid . this principle said that always write code in simpler version , use methods which have not so big bunch of code , so that others can also understand your code .

We can achive this by divide long line of code into small small methods , always find simplier version for solving your problems , write method which do single task .

**Q3 What is Pessimistic Locking and Optimistic Locking?**

**Pessimistic Locking :-**

**Q4. What is a DeadLock ? And what are methods by which we can handle deadLock.**

**DeadLock : -** A Deadlock is a situation where each of the computer process waits for a resource which is being assigned to some another process. In this situation, none of the process gets executed since the resource it needs, is held by some other process which is also waiting for some other resource to be released.

We can handle deadlock by following ways : -

1. Deadlock Ignorance : - In this method operating system assume that deadlock never happen.
2. Deadlock avoidance : - In this method os check at every step weather system is in safe state or unsafe state if system is in unsafe state the os back to one system and again check.
3. Deadlock detection and recovery : - This method fall the process in deadlock and check , deadlock happen or not .If occur then apply some recovery method to out from deadlock
4. Deadlock prevention : -

**Q5. What is a HTTP protocol? Difference between HTTP and HTTPS.**

**HTTP protocol** :- Stands for "Hypertext Transfer Protocol." HTTP is the protocol used to transfer data over the web. It is part of the Internet protocol suite and defines commands and services used for transmitting webpage data. HTTP uses a server-client model. A client, for example, may be a home computer, laptop, or mobile device.

Difference between Http and Https : -

Https is more secure than https

https use ssl certificate

https encrypt the data so that no 3rd person can be able to access data

https slower than http