**Theory Answers**

**Q1. What is Linux ?**

-> Linux is an open source operating system that performs as a bridge between hardware and software. Also it has the core system that controls how different programs interact with the computer hardware. It is widely used in servers, cloud platforms, and even in everyday devices like smartphones, which makes it an essential tool for anyone stepping into the DevOps or tech field.

**Q2. What is the Difference between Hard link & Soft link ?**   
**-> Hard Link:-** Hard Link helps us to create another file which points directly to the same data on disk(not just copy). Even if delete or Change the Original File the data still remains accessible through the hard linked file, and any changes refelct in both.   
**Example:-** If we have a file named "TempFile" and create a hard link called "TempFile1", both files point to the same content. Deleting "TempFile" won't affect the data, because "TempFile1" still has access to it.

**-> Soft Link:-** Soft Link is like a shortcut that refers to FILE NAME. if the original file is deleted, the soft link becomes broken, that means it refers to FILE NAME not File Data.   
**Example:-** If we have a file TEMPFile1.txt, and create a soft link TempLink1.txt to it. If TEMPFile1.txt is deleted, TempLink1.txt will not work anymore.

**Q3. What is Kernel in Linux ?  
->** Kernel is like a core of an Operating System, It performs between hardware and software applications we run. It manages CPU, Memory and Devices, Control process, handles file system and provides security too. Basically, the kernel is responsible for all low level tasks that keep the system running smoothly.