RPS Day 1 Assignments

Assignment 1

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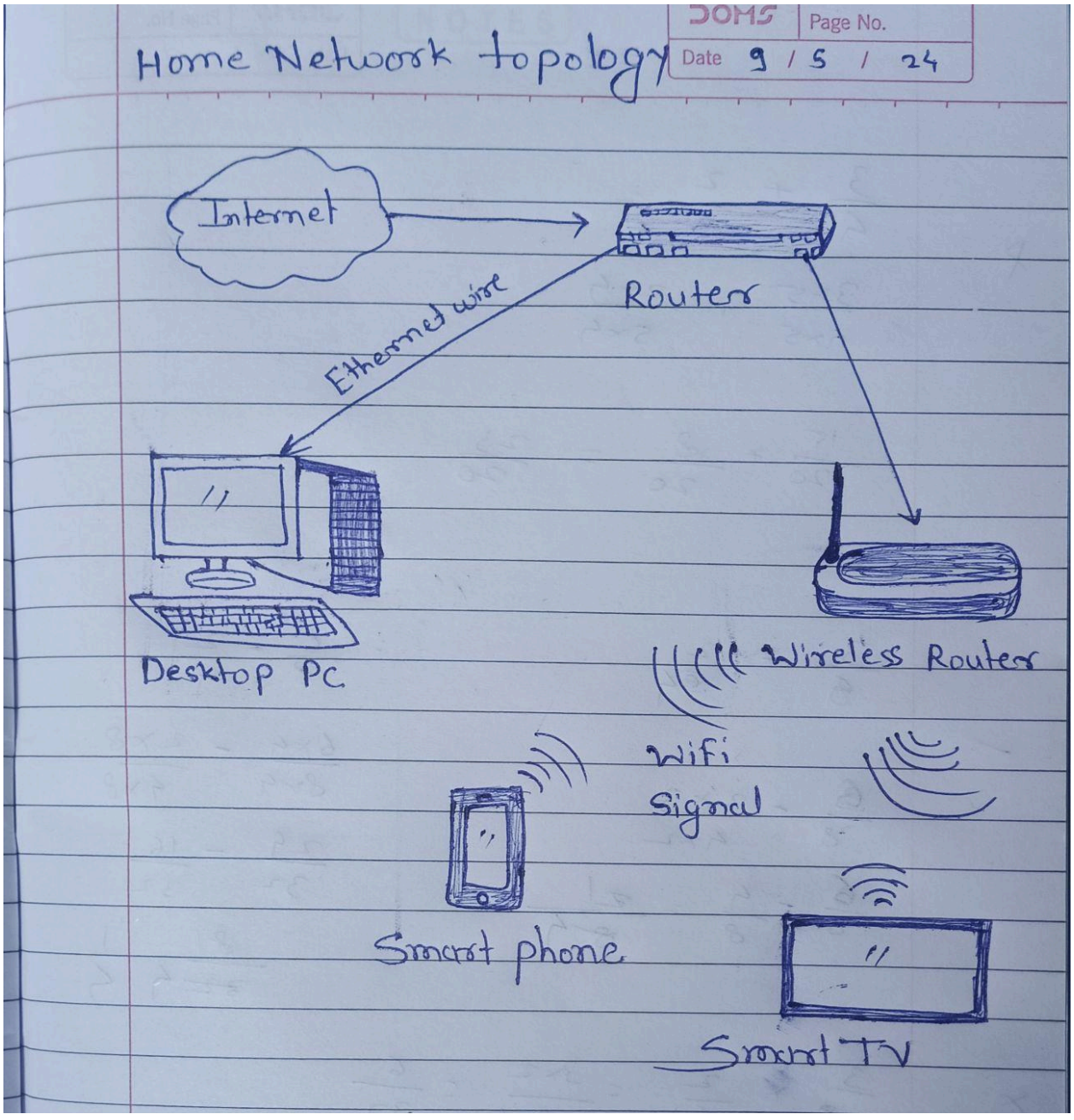
1. Draw your Home Network Topology and explain how you are accessing the Any(College lab, office lab) Lab environment.



The reason it is a hybrid is that the Personal Area Network at my home acts like a star topology where the router/modem acts as a single point of communication for all the devices for the network.
After that, the LAN of my area and the LAN at my college area acts as a tree topology where the network is distributed at various hierarchical levels.
Thus, it is a hybrid topology. Hybrid topology by definition is topology is defined as a network topology that combines two or more different network topologies**.**

Assignment 2

2. Identify a real-world application for both parallel computing and networked systems. Explain how these technologies are used and why they are important in that context.

Parallel Computing Example:
Video editing and rendering: Big movies nowadays are shot in 4K quality with crystal-clear sound and realistic computer-generated imagery. All of this editing and rendering used to take a lot of time back in the days of normal computing. But with parallel computing, all these processes are done simultaneously, and the results can be achieved much faster compared to normal computing. Parallel computing is a technology that helps in processing multiple tasks at the same time by dividing the tasks in such a way that one task does not interfere with another, allowing them to be performed concurrently.

Networked System Example:
Cloud computing: With the modernization of networking and cloud systems, infrastructure, platforms, and software can now be accessed through the Internet. These systems are distributed across various locations but are connected through a web of networked systems. This helps achieve better scalability and efficient resource sharing. A networked system is a technology that connects a web of systems in such a way that they can share multiple resources, from software to hardware, over a wide area network.