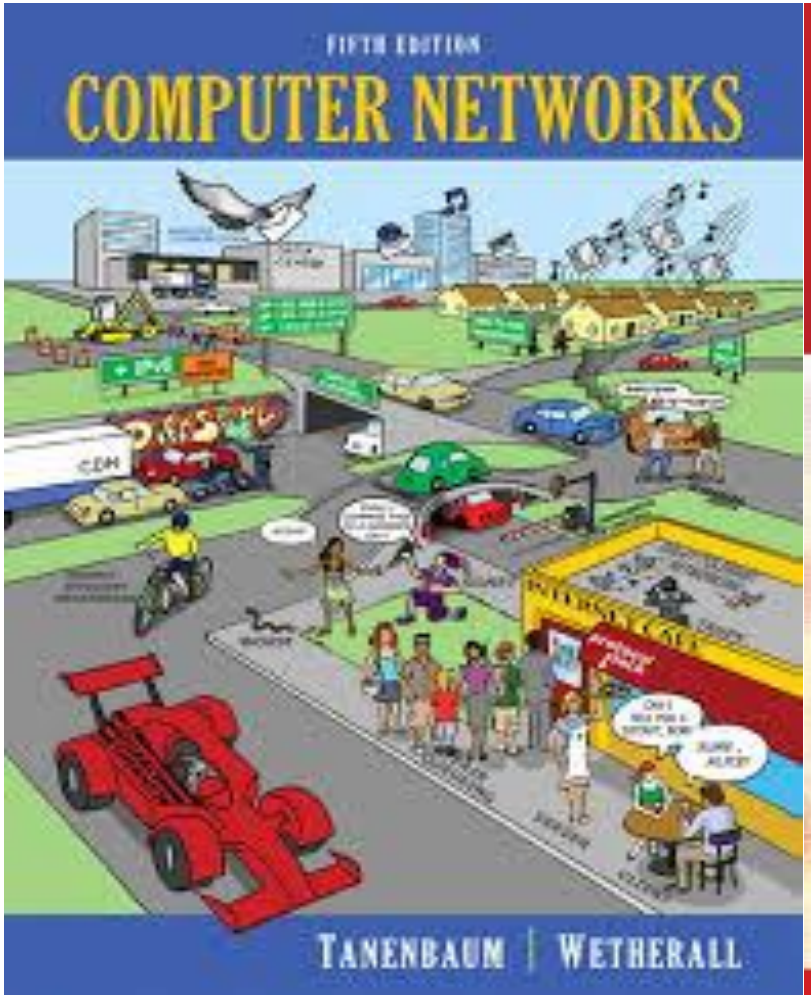
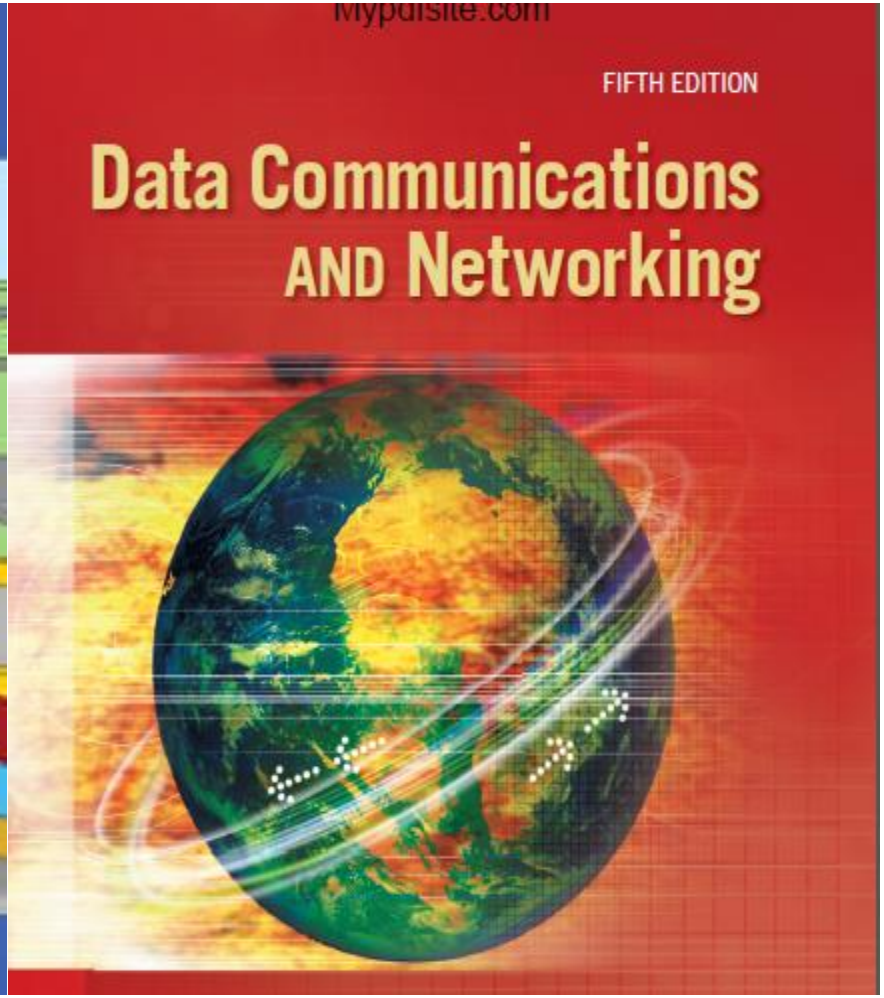
CSE307
INTERNETWORKING ESSENTIALS

Practical-1:
Working of hub, switch and Router,
Adding of interfaces in devices





Reference Book 1
Ed 5

Text Book

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HUB

A hub is probably the most common Physical layer device found on networks.

A hub serves as a central connection point for several network devices.

It repeats what it receives on one port to all other ports, including the port on which the signal was received.

Switch

- The *switch* is more intelligent than a hub in that it can actually understand the frames that pass through it.
- Switch builds a table of the MAC addresses of all the devices connected to it.
- When two devices attached to the switch want to communicate, the sending device sends its data on to its local segment.

- Switches have risen to the high level of popularity because of their ability to prevent collisions from occurring between the devices attached directly to their ports, thus increasing overall network throughput and efficiency.

MCQ

Which network device only broadcast?

(a) Switch

(b) Hub

(c) Both

(d) None of the above

MCQ

Which network device works on data link layer?

(a) Switch

(b) Hub

(c) Both

(d) None of the above

	Hub	Switch
Layer in the OSI model:	Physical layer(Layer 1 Device)	Data Link Layer (Layer 2 devices)
Transmission Type:	Only Broadcast	At Initial Level Broadcast then Uni-cast & Multicast
Table:	There is no MAC table in Hub, Hub can't learn MAC address.	Store MAC address in lookup table, Switch can Learn MAC address.
Usage :	LAN	LAN
Ports:	4 ports	24/48 ports
Collision:	In Hub collision occur.	In Full Duplex mode no Collision occurs.
Transmission Mode:	Half duplex	Full duplex
Collision Domain:	Hub has One collision domain.	In Switch, every port has its own collision domain.
Cost:	Cheaper than switches	3-4 times costlier than Hub
Broadcast Domain:	Hub has one Broadcast Domain.	Switch has one broadcast domain