A small Test / repetition

Talk and discuss with your neighbour following questions

Application layer:

- What is P2P?
- Which types of applications use P2P?
- What is the basic idea behind P2P?
- What are the challenges of the P2P architecture?

Transport Layer:

- Which types of computers (equipment) is part of the transport layer communication?
- What is UDP short for?
- What is the purpose of UDP?
- Which types of application would prefer UDP as transport protocol?
- The header for the UDP how does it looks like.
- What do the different fields mean?
- What is TCP an short for?
- What is the purpose of TCP?
- Which types of application would prefer TCP as transport protocol?
- The header for the TCP how does it looks like.
- What do the different fields mean?
- How does the TCP protocol establish a connection?
- How do the TCP ensure that it deliver a reliable connection?
- How do the TCP handle congestion control?

Network Layer:

- What are the important network-layer function(s)? In addition Explain forwarding.
- What is the content of a forward table? Moreover, how to use a forward table?
- What is the fundamental difference between a router and a packet switch (link-layer switch)?
- Take a closer look at fig.4.16 (p.358) and explain the meaning and use of Version, Time to live, Header Length, Datagram Length, Upper-Layer Protocol
- How many bits are in an IPv4 address?
- What is a subnet?
- How can you find the net-id from a network address?
- Two organisation are given the address space 233.1.1.0/24 respectively 223.1.1.0/16 what are the network-ID and the broadcast address in the two net?
- Why is the world running out of IPv4-addresses? How to solve this problem?
- What is a NAT-router?
- Describe the two ways a Host (Computer) can obtain an IP-address.
- Why do we not just all switch to IPv6?