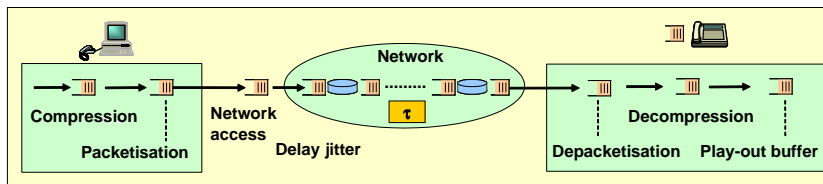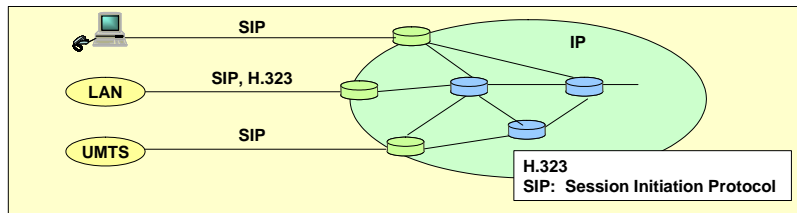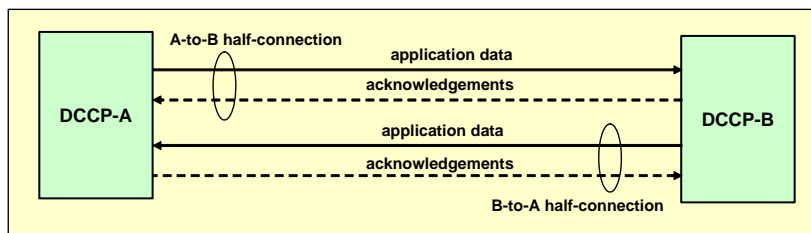## Question 1: Signaling and Multimedia Protocols
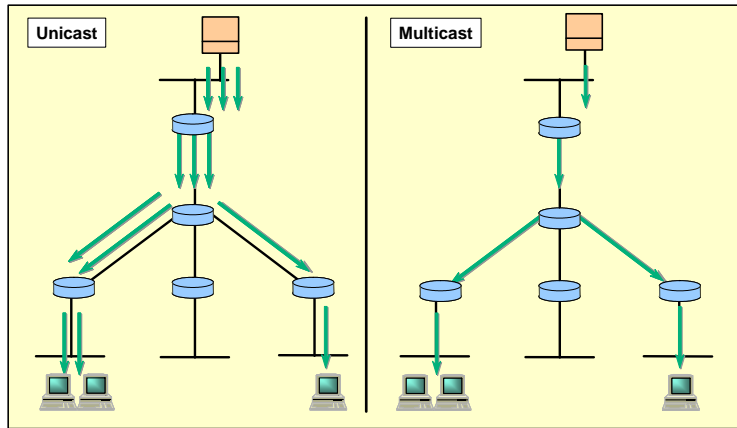

a) What is the difference between a traditional and an Internet voice connection?
b) Why one needs a buffer at the receiving side?
c) Give **two** signaling architectures for next generation networks.
d) Give **three** network components for each of these two architectures.
e) What is the payload protocol component of SIP?
f) How we can distinguish between SIP requests and SIP responses?
g) What are the main functions of the protocols RTP, RTCP, and RTSP?
h) Give the full name of the **three** acronyms.

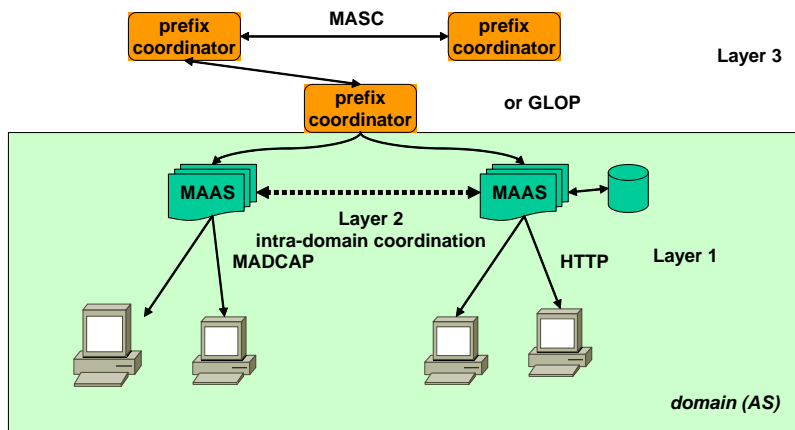## Question 2: Transport Protocols

a) Which protocols are meant by the abbreviation SCTP and DCCP? Give the full name.
b) Give **four** major properties of **each** of these protocols.
c) For what purpose header compression is being applied?
d) Give the main mechanisms used in header compression.
e) What is AQM? Give **five** different realizations.

Question 3: Multicast

a) Which **two** protocol components form the architecture of a multicast environment?
b) Which protocol allows an end system to be part of the information distribution?
c) Give **two** basic methods to organize the information distribution over the network?
d) What is the main difficulty for operating reliable multicast?
e) Give **three** methods to cope with this difficulty.
f) What is the difference between wireless systems DVB-T, DVB-S, and DVB-H?

Question 4: Multicast addressing and allocation

What is the purpose of

a) Multicast Address-Set Claim (MASC)?
b) Multicast Address Dynamic Client Allocation Protocol (MADCAP)?