

Topic 14: Communication and Internet Technologies

Keyword sheet - Cambridge AS & A Level Computer Science 9618. Tick each term once you can define it from memory.

Keyword	Definition	Know it?
Protocol	Agreed set of rules for communication between devices.	
TCP/IP stack	Application, Transport, Internet and Link layers, each with its own protocols.	
Application layer	Protocols used by software, e.g. HTTP, FTP, SMTP, POP3, IMAP.	
Transport layer	Splits data into segments, provides ports, error checking and reliability (TCP) or speed (UDP).	
Internet layer	Adds IP addresses and routes packets.	
Link layer	Handles transmission over the physical medium using MAC addresses.	
HTTP / HTTPS	Request-response protocol for web pages / encrypted HTTP using TLS.	
FTP	Protocol for transferring files between hosts.	
SMTP / POP3 / IMAP	Sending email / downloading email to a client / managing email stored on the server.	
BitTorrent	Peer-to-peer protocol that downloads pieces of a file from many peers; uses seeds, swarm and tracker.	
Circuit switching	Dedicated path reserved for the whole communication; constant bandwidth but inefficient.	
Packet switching	Message split into packets routed independently and reassembled; efficient use of the network.	
Packet header / payload / trailer	Control information / data / end marker with error check.	
Port / socket	Number identifying a service / combination of IP address and port.	
Routing	Selecting a path for packets using routing tables.	