Advanced Computer Networks - Set 3

Study online at https://quizlet.com/_eq3d8a

1.	**Transport Layer**	Purpose: Establish virtual connections between applications. Logical communication between processes. Main Protocols: TCP and UDP PDU Name: Segment
2.	**TCP**	- Reliable, in order delivery - Point to point - Pipelined - Congestion control - Flow control - Connection oriented - Cumulative ACK
3.	**UDP**	- Connectionless - Unreliable, unordered delivery - Simple, small header - Faster - Checksum
4.	**Multiplexing**	Take data from MULTIPLE sockets, add transport header
5.	**Demultiplexing**	Use header info to deliver received segments to correct socket
6.	**Connection-Oriented Demutiplexing**	Segment identified by 4-tuple containing source IP address, source socket, destination IP address, destination socket
7.	**Connectionless Demultiplexing**	Segment identified by tuple containing IP Address and Socket pair
8.	**Checksum**	Error detection mechanism via checking for flipped bits in transmitted segment
9.	**Stop-and-Wait Flow Control**	Source must wait for ACK before sending another frame
10.		

	Sliding-Window Flow Control	Receiver has buffer space for W frames, transmitter can send up to W frames without needing ACK. ACK signifies receiver is ready to receive next W frames beginning with ACK number.
11.	**ARQ**	Automatic Repeat request. Collective name for error control mechanisms
12.	**Stop-and-Wait ARQ**	Send segment and wait for ACK before sending another.
13.	**Go-Back-N ARQ**	- Most commonly used - Sliding window flow control - RR = Receive ready - REJ = Reject frame If frame rejected, sender must resend that frame and all subsequent frames
14.	**Selective-Reject ARQ**	Only specifically rejected frames are retransmitted (SREJ). Subsequent frames received by receiver are buffered.
15.	**TCP Fast Retransmit**	If sender receives 3 ACKs for same data, resend unACKed segment with smallest seqno
16.	**TCP 3-Way Handshake**	Before exchanging data, sender/receiver "handshake", establishing connection parameters. SYN bit = 1 used for handshake
17.	**TCP Closing Connection**	Client and server each close their side of connection with TCP segment with FIN bit = 1