2.3 Wireless Devices

802.11	Wifi
Ad-hoc mode	Doesn’t require AP but requires Network Adapters on each device
n, ac, ax	Supports MIMO(Multiple Input/Multiple Output)
DSSS	Only 11b
OFDM	Rest all
Unidirectional Antenna	Also penetrates wall
2.4 GHz	11 Channels, long range, can penetrate
5 GHz	23 Channels, Short range, can not penetrate
MU-MIMO Multiuser MIMO)	Advanced version of MIMO, allowing to send multiple frequencies at the same time to multiple users
Channel 1, 6 and 11 in 2.4GHz frequency range	WAN calls out to use channels which are spaced 5MHz apart hence 1, 6 and 11. Note that they do not differ in bandwidth and transmission range as compared to other channels
802.11n	Only MIMO which supports 4 antennas
802.11ac	Supports 8 antennas
802.11ax	Supports 8 antennas
BSS	Network Name
BSSID	MAC ID of the Network

11, 11b, 11a, 11g	Only use single 20MHz channel

11n	Can join 2 channels of 20MHz each
11ac, 11ax	Can join up to 8 channels of 20MHz
PFC(Perfect Forward Secrecy)	A unique key which is generated for every session so that data is encrypted in WPA3
CCMP-AES	Not AES
WPA3 Personal Configuration	Doesn’t support PSK
EAP	Authentication using Smart Cards
WPA-Personal (also WPA-PSK)	Doesn’t require Radius
WPA-Enterprise (also WPA-802.1Q)	Requires Radius
WEP, WPA	Very easy to penetrate
Max 5G Speed	10GBps
5G	Three Frequency Bands(low, medium and high)
High speed in High Frequency band	But Low range
802.11h	Coexistence of of WLAN with other services
802.1X	Port-Based authentication
CAPWAP	Control and Provisioning of WAP, for managing APs
LWAPP	Lightweight Access Point Protocol for managing AP
LDAP	Directory Management
Band Steering	Switching between frequency channels