

Wireless Networks

Problem 12 Solutions

P12.1.

What are the major differences between 802.11a and 802.11b protocols? Explain clearly.

[solution]

802.11a and 802.11b use different radio technologies and portions of the spectrum, they are incompatible with one another.

P12.4.

An AP covers an area of 50000 m². An area of 10000000 m² is to be covered by many Aps. How many Aps will be needed if deployed in a mesh topology?

[solution]

$$\frac{10000000}{50000} = 200$$

P12.11.

What is the operational difference between 802.11b and 802.11n?

[solution]

802.11n use MIMO which has multiple separate receive and transmit paths and OFDM modulation which has better performance

P12.15

in a given large institution, there are two types of APs, pre-installed 802.11g APs and newer 802.11n APs. What are the advantages and limitations of such a deployment? Explain clearly.

[solution]

Different types of APs allow different coverage area as well as different bandwidth. So, they can be tailored in the areas based on underlying requirements. Off course, not all users can experience the high data rate of new APs.