Networks and Protocols

Tutorial (Week 2)

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1. In an Ethernet frame what is the role of CRC field? What are the two physical topologies supported in ethernet?

2. Define ‘infrastructure mode’ and ‘ad-hoc mode’ in wireless sensor network. What is meant by the word ‘handoff’?

3. What do the following terms stand for?

   i) BSS ii) EIFS

   iii) VANET iv) GTS

4. Explain the CSMA/CA method in IEEE 802.11 MAC Protocol, indicating the waiting period at different stages of a complete transmission.

5. Briefly explain the drawbacks on the conventional MAC protocols.

6. What is ‘rendezvous’ mechanism? What problem can be solved by using this mechanism?

7. Which MAC protocol is currently considered as the default protocol? How is it employed in Wireless Sensor Network?

8. How many channels are there in the physical layer of IEEE 802.15.4 standard? Categorize them with respect to their corresponding frequency bands. Draw the frame structure of a PHY packet.

9. What are the three advantages of transmitting in sub 1 GHz frequency band.

10. How can the huge collision probability in IEEE802.11ah be avoided?