**ADVANCED MOBILE NETWORK**

Qualification exam 2016

Department of Computer Engineering

1. Advantage and Disadvantage of DSR

2. LAR: what does this algorithm try to improve over other algorithms? and how to do?

3. Briefly describe how DSR works? and draw an example?

Department of Electrical Engineering

1. T-MAC advantage

2. S-MAC briefly explain

3. Why we need multi-hop in WSN even when directly transmission is possible? (save energy...)

4. advantage/disadvantage of AODV

2018

1.a S-MAC briefly explain

1.b T-MAC advantage

1.c Why network use multihop

2. Which thing consider when we create Ad-hoc routing algorithm

( For example, difference Ad-hoc routing and Tradition routing )

3. briefly AODV works, write advantage/disadvantage over DSR

2019

1. example of network topology in case of terminal hidden. In 802.11, descirbe at lease two methods to avoid collision?

2. Describe OLSR (w.r.t link state flood)

3.

T-MAC advantage

S-MAC briefly explain

Why we need multi-hop in WSN even when directly transmission is possible?

4. what thing must consider when we design one DTN routing. What is the difference between DTN and ad-hoc network, and transditional routing.

2020-1

1. Assume that you are a protocol designer and have designed several MAC and routing protocols for MANET. Now, you are given a new mission to design MAC and routing protocols for WSN. How will your design consideration and strategies change, compared to the case of MANET? Discuss this in detail (with respect to both MAC and routing protocols)

2. AODV uses ‘destination sequence number (DSN)’. Describe the reason of using DSN (e.g. usages, benefits)

3. Describe the congestion avoidance techniques in IEEE 802.11

2021

1. Explain Hidden terminal, draw simple topology. At least 2 methods to avoid collision (RTS-CTS, NAV, backoff,...)
2. Compare WSN and MANET: energy efficiency, data type, QoS, mobility
3. AODV route discovery process. Draw a simple diagram and explain it.

2023

   Qualification exam 2023 1st semester

Advanced mobile networks: Theory and Application

1. a) Describe OLSR (w.r.t link state flood)

  b) Describe at least two congestion avoidance techniques in IEEE 802.11

2.     a) Explain a simple network topology in case of hidden terminal problem avoiding obstacles

  b) what thing must be considered when we design DTN routing. What is the      difference between DTN and ad-hoc network, and traditional routing.

3. a) In WSN we use multi-hop in WSN instead of directly transmission.

What is the appropriate reason for this.

b) Describe. 802.15.4 MAC protocol