Question Bank

UNIT I - PART A

1.1. What is an adhoc network?

1.2. What is fading? List the different types of fading?

1.3. Why ad hoc networks are needed? (May/June 2012)

1.4. What are the challenging issues in ad hoc network maintenance? (May /June 2013)

1.5. What is hidden terminal problem?

1.6. Distinguish between shadowing and reflection of signal propagation

.1.7. List the transmission impediments of wireless channel (May / June 2013)

1.8. State **Shanon's theorem.** (Nov. / Dec. 2012)

1.9. Differentiate an ad hoc network and a cellular network with respect to bandwidth usage and cost effectiveness . (Nov./ Dec.2012)

1.10. List the applications of ad hoc network.

1.11. Define path loss.1.12. Write the equation for maximum data rate according **to shanon's** theorem   (May/ June 2013)

1.13. Give the difference between cellular networks and ad hoc wireless networks.

1.14. List the issues that affect the design deployment and performance of ad hoc wireless system.

1.15. How scalability improved in ad hoc wireless network.

1.16. List the benefits when deployment of a commercial ad hoc wireless networks compared to wired network.

1.17. List the propagation mechanism experienced by radio wave.

1.18. List the characteristics of wireless channel.

1.19. Define Nyquist theorem.

1.20. Define Doppler shift.

1.21. List the advantages of hybrid wireless networks.

1.22. Compare Ad-hoc Networks and Wireless LAN. (April 2014)

1.23. Define Scalability. (April 2014)

UNIT I - PART B

1.24. What are the characteristics and features of ad hoc networks? (May/June 2012)

1.25. Explain path loss and fading in detail. (May/June 2013)

1.26. Explain the two main forms of interference, Doppler shift and Nyquist theorem. (May/June 2013)

1.27. Explain the applications areas of ad hoc networks. (May/June 2013)

1.28. Explain the characteristics of wireless channels. (May/June 2012)

1.29. Explain ad hoc indoor mobility models   in detail. (May/June 2012)

1.30. How mobility can be supported in today's internet? Explain using the WAP model.

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Comment on its challenges in maintaining ad hoc networks that are connect to internet. (Nov./ Dec.2012)

1.31. Differentiate between cellular network and AdHoc Network. (April 2014)

1.32. What is replay attack? How it can be prevented? (April 2014)

1.33. List out the major advantages of Adhoc wireless Internet. (April 2014)

1.34. Discuss the Pros and Cons of a routing protocol that uses GPS information for an Adhoc wireless Network for search and rescue operation. (April 2014)

UNIT II - PART A

2.1. List the design goals of MAC protocol for ad- hoc networks.

2.2. List the issues of designing a MAC protocol for ad hoc networks.

2.3. What are the classifications of MAC protocol (May/ June 2012)

2.4. What are the effects of exposed terminal problem in wireless networks?

2.5. What are the advantages of directional antennas of MMAC over MACAW?

2.6. What are the mechanisms used in MAC layer?

2.7. What are the differences between HRMA and SRMA?

2.8. List the five phases of FPRP.2.9. List any two needs of real- time MAC protocol.

2.10. Compare the efficiency of the packet queuing mechanism adopted in MACA and MACAW(Nov. / Dec. 2012)

2.11. List the features of 802.15 standard (May/ June 2012)

2.12. How is directional antenna MMAC superior over MACAW?

2.13. Write the frame format of 802.11a.

2.14. What is HIPERACCESS?

2.15. What do you mean by contention based protocols?

2.16.Give the classification of contention based protocol

2.17. Give the classifications of MAC protocols.

2.18. List the main issues in designing a MAC protocol for ad hoc wireless networks.2.19. What do you mean by FAMA?

2.20. What do you mean by contention based protocols with reservation mechanism?

2.21. What do you mean by contention based protocols with scheduling mechanism?

2.22. What do you mean by D- PRMA?

2.23. What are the disadvantages of the binary exponential back off mechanism used in MACA? How are they overcome in MACAW?

2.24. What do you mean by BTMA?

2.25. On what basis MACAW protocol is designed?

2.26. What is meant by HIPERLAN? (April 2014)

2.27. What are the issues to be considered while designing a MAC protocol for Ad-Hoc Networks?(April 2014)

UNIT II - PART B

2.28. Explain MACAW protocol in detail.

2.29. Explain the contention based protocols with scheduling and reservation in detail. (May/ June 2012)

2.30. Explain the HIPERLAN standards in detail. (May/ June 2012)

2.31. Explain 802.11g IEEE standard in detail. (May/ June 2012)

2.32. List and explain the issues in designing a MAC protocol for ad hoc wireless networks.

2.33. How are directional antennas superior to MACAW? Explain with an example.

2.34. List the important goals of designing a MAC protocol for ad hoc wireless networks. (May/ June 2013)

2.35. Illustrate various steps involved in five phase reservation protocol with its frame format.(Nov./Dec2012)

2.36. How is scheduling mechanism achieved in distributed wireless ordering protocol? Explain in detail. How are Information symmetry and perceived collisions handled? (Nov./ Dec. 2012)

2.37.What are the advantages of reservation based MAC protocol over contention based MAC protocol? (April 2014)

2.38. What are the advantages and disadvantages of MAC protocol using directional antennas? (April 2014)

2.39.Name the three MAC services provided by the IEEE 802.11 that are not provided in the traditional LAN's such as 802.3. (April 2014)

2.40. Discuss the various HIPERLAN standards defined for wireless Networks by ETSI. (April 2014)

UNIT III - PART A

3.1. What are the responsibilities of routing protocol?

3.2. What are the major challenges in designing routing protocols?

3.3. Differentiate proactive and reactive protocols. Write examples for each. (May/ June 2012)

3.4. List the characteristics of a routing protocol for ad hoc wireless networks.

3.5. What is the approach used to find link stability in ABR ?

3.6. List the major classification of routing protocol for ad hoc wireless network.

3.7.Based on routing information update mechanism how the routing protocols are classified?

3.8. How does energy aware routing work? (May/ June 2012)

3.9. List the classification of routing protocols based on the routing information update mechanism.

3.10. List the approaches for power aware routing protocol.3.11. Based on the use of temporal information for   routing, how the routing protocols are classified?

3.12. Based on the routing topology how the routing protocols are classified?

3.13. What is the need for power management in ad hoc network?

3.14. List some examples of table driven routing protocols.

3.15. List the advantages and disadvantages of DSDV routing protocols.

3.16. What is hybrid routing protocol?

3.17. Mobility of nodes in a sparsely populated mobile ad ho network is less. What is the choice between proactive   routing protocol and reactive routing protocol?

3.18. List the types of on-demand routing protocols.

3.19. List the types of hybrid routing protocols.

3.20. How on-demand routing protocols differ from on-demand routing protocols?

3.21. What are the advantages and disadvantages of dynamic source routing protocol?(DSRP)

3.22. What are the pros and cons of tree based and mesh based routing?

3.23. What is call routing?

3.24. Mention any four qualities of service metrics that are used to evaluate the performance of the network?

3.25. Where is network layer solution used for quality of service?

3.26. Is hop - length always the best metric for choosing paths in MANETs? Defend your answer.(Nov. /Dec. 2012)

3.27. State any four reasons that lead to the quick power drain of nodes in mobile ad hoc network.

3.28. AMRIS may to exhibit high packet delivery ratio even when all nodes restrict their mobility to a small region. Why? (Nov./ Dec.2012)

3.29. Give the difference between Ad hoc on demand Distance vector routing protocol(AODV) and dynamic sequence routing protocol (DSR

3.30. Differentiate proactive and reactive protocol. (April 2014)

3.31. What are the advantages of hierarchical routing protocol? (April 2014)

UNIT III - PART B

3.31. With suitable trace, explain the route establishment in location aided routing. (Nov./Dec2012)

3.32. Device a pseudo code that present various steps involved in neighbor Degree- Based preferred link algorithm.(Nov./Dec2012)

3.33. How is routing table constructed in fisheye state routing protocol? Explain in detail. (Nov./Dec2012)

3.34. Discuss table driven protocols with examples.

3.35. Explain multicast routing algorithms in detail. (May/June 2012)

3.36. How routing table is constructed in fisheye state routing protocol? Explain in detail. (Nov./Dec2012)

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3.37. List the characteristics of ideal routing protocol for ad hoc wireless network.
(May /June 2013)
3.38. Classify and explain adhoc wireless network based on routing topology. (May /June 2013)
3.39. Explain the types of ad hoc network routing protocols based on routing information update mechanism. (May /June 2013)
3.40. Explain on demand routing protocol in detail. (May /June 2012)
3.41. Explain the major challenges that a routing protocol designed for adhoc wireless networks face.
3.42. Describe how the packets are transmitted in multiple access collision avoidance protocol.
(April 2014)
3.43. Explain the scheduling table update mechanism in distributed priority scheduling.
(April 2014)

UNIT IV - PART A

4.1. List the types of attacks in ad hoc wireless networks.
4.2. What do you mean by passive attacks?
4.3. What do you mean by active attacks?
4.4. Define Denial of attack.
4.5. List the major types of resource consumption attacks.
4.6. List the major security threats that exist in ad hoc wireless networks.
4.7. Give the major objectives of the transport layer protocol.
4.8. What do you mean by quality of service (QoS) Provisioning?
4.9. What is the typical value of time out period in traditional TCP? In what ways these become a problem in mobile ad hoc networks
4.10. List the issues and challenges in security provisioning of transport layer.
4.11. Define secure routing.
4.12. What are not supported by the traditional TCP for handling Adhoc network?
4.13. How is secure routing done on wireless channels?
4.14. Why secure routing protocols are needed?
4.15. Define QoS frame works
.4.16. Why does TCP not work well in ad hoc network? (May/ June 2012)
4.17. What is byzantine attack? (May/ June 2012)
4.18. What are the issues in designing transport layer protocol?
4.19. Comment on the use of natural language passwords directly for cryptographic algorithms.
(Nov./ Dec2008)
4.20. Assume that the TCP sender experiences a timeout when the current congestion window size is48 KB. Considering the MSS of 1 KB, calculate the size of the congestion window for which the next three transmissions will be successful. (Nov. / Dec.2012)
4.21. List the issues in designing a transport layer protocol for Ad hoc wireless networks.

4.22. List the goals to be achieved in transport layer protocol for Ad hoc wireless networks.

4.23. List the network security requirements.

4.24. List some of the network layer attacks.

4.25.What are the effects of induced traffic in Adhoc network? (April 2014)

4.26. Define Wormhole attack. (April 2014)

UNIT IV - PART B

4.27. Explain feedback based TCP and TCP BUS in detail. (May/ June 2012)

4.28. Explain ad hoc TCP states and event action mapping in detail. (May/ June 2012)

4.29. Explain the significance and design goals of transport layer protocol for adhoc network.

4.30. Explain the issues in designing a transport layer protocol for adhoc wireless networks.
    (May/ June 2013)

4.31. Why does TCP not perform well in adhoc wireless network? Explain. (May/ June 2013)

4.32. With any five major reasons, analyze why TCP is exposed to significant throughput
    degradation in ad hoc networks. (Nov./Dc 2012)

4.33. List and brief various network and transport layer attacks in detail.(May/ June 2012)

4.34. Explain various network and application layer security attacks in detail. (Nov./Dc 2012)

4.35. Discuss the effect of multiple breaks on a single path at the TCP- F sender. (April 2014)

4.36. What is the impact of the failure of proxy nodes in split- TCP? (April 2014)

4.37. Explain how the security provisioning in adhoc network differs from that in infrastructure
    based network.(April 2014)

4.38. List out and explain how some of the internet properties of the wireless Adhoc networks
    introduce difficulties while implementing security in routing protocols. (April 2014)

UNIT V - PART A

5.1. What are the factors that affect effective cross layer design? (May/June 2012)

5.2. State the use of embedded protocol boosters in cross layer optimization. (Nov. /Dec.2012)

5.3. What are the classifications of integrated mobile IP network?

5.4. Why ad hoc network is integrated with MOBILE IP? (May/June 2012)

5.5. State any two challenges faced by MANETs in adopting mobile IP. (Nov./Dec.2012)

5.6. List the issues of integrating MANET with mobile IP network.

5.7 What is wireless internet?

5.8. List the major issues in wireless internet.

5.9. What do you mean by encapsulation?

5.10. Define tunneling.

5.11. What do you mean by time to live (TTL)?

5.12. Give the categories of handoff.

5.13. What is cross layer feedback?

5.14. What is the need for cross layer design?

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5.15. What is protocol optimizer?

5.16. How application layer is integrated with its upper layer?

5.17. List the different cautionary perspective of cross layer design.

5.18. List the four main categories of optimization.

5.19. What do you mean by Wireless transport layer security (WTLS)?

5.20. Define Wireless datagram protocol   (WDP)

5.21.What is the need for cross layer design? (April 2014)

5.22. What are the parameter optimization techniques available? (April 2014)

UNIT V - PART B

5.22. Explain integration of adhoc with mobile IP networks in detail. (May/June 2012)

5.23. Explain the operation of optimizing sub system (OSS).

5.24. Explain the cross over time prediction. (May/June 2013)

5.25. Explain COA, reverse tunneling and route optimization. (May/June 2013)

5.26. Discuss briefly cross layer optimization technique in detail. (May/June 2012)

5.27. Explain the significant challenges of generic cross layer design. (Nov./Dec.2012)

5.28. List the issues of utmost importance in mobile IP. (May/June 2013)

5.29. Explain the various issues and solutions for integrating MANET'S to internet in detail.

5.30. Explain the features of a cross-layer model designed for multiuser scheduling. Also
     highlight how efficiency is improved through this model. (Nov./Dec.2012).

5.31. How link/MAC layer optimization is achieved with respect to its higher layers and physical
     layer? Also write its impact on bit rate and power control. (Nov./Dec.2012

5.32. Describe how to integrate Adhoc with mobile IP. What are the advantages? (April 2014)

5.33. Explain any one of the cross layer optimization method and how it improve the performance
     of the routing Adhoc networks. (April 2014)