Important questions of ASN:

Unit-I

Q1. Explain wireless network in detail.

Q2. Differentiate between infrastructure and infrastructure less wireless network.

Q3. Differentiate between adhoc and cellular network.

Q4. Define adhoc network in detail with its architecture, challenges and applications.

Q5. Define WSN with its architecture.

Q6. Explain in detail about Applications of Ad Hoc Wireless.

Q7. Explain in detail about Issues in Ad Hoc Wireless Networks.

Short Questions:

Q8. What is an adhoc network?

Q9. What are the challenging issues in ad hoc network maintenance?

Q10. Why are ad hoc networks needed?
Ans. Ad hoc networking is often needed where an infrastructure network cannot be deployed and managed. The presence of dynamic and adaptive routing protocols enables quick formation of ad hoc networks and is suitable for emergency situations like natural disasters, spontaneous meetings or military conflicts.
Q11. List the applications of ad hoc networks.

Q12. Define- MANET.
Ans. MANET is defined as an autonomous system of nodes or Mobile Stations (also serving as routers) connected by wireless links, the union that forms a communication networks, modelled in the form of an arbitrarily communication graph.

Q13. List the characteristics and Applications of MANETs.

Unit-II

Q1. Discuss the issues in designing a routing protocol for ad hoc wireless networks and describe the classification of routing protocols.

Q2. Explain various protocols used in routing in detail. (Hint: Proactive, reactive and hybrid).

Q3. Explain table driven routing protocol in detail. (Hint: DSDV, WRP, CSGR).

Q4. Illustrate the process of route establishment and route maintenance in Destination Sequenced Distance-Vector Routing Protocol (DSDV) by taking an example.

Q5. Define WRP and DSDV.

Q6. Explain in detail about CGSR.

Q7. Explain demand routing protocol in detail. (Hint: AODV, DSR, TORA, SSR, LAR).

Q8. Explain hybrid routing. (Hint: ZRP).

Q9. Explain QoS in detail with its challenges, classification and framework.

Q10. Explain the classification of QoS solution in detail.

Q11. Define QoS framework in detail.

Short Questions:

Q12. Differentiate between proactive and reactive routing.

Q13. What is called hybrid routing?

Unit-III

Q1. What is a wireless sensor network? Explain with diagrammatic illustration wireless sensor network architecture.

Q2. Explain origin and need of WSN.

Q3. Define middleware principles with its existing architecture.

Q4. Outline the operating system design issues in wireless sensor networks.

Q5. List and explain the issues and goals in designing a MAC protocol.

Q6. Discuss the classification of MAC Protocols. Explain the principle of contention based reservation mechanism.

Q7. Write short notes on D-PRMA.

Q8. Explain the hidden and exposed problems with an example and diagrammatic illustration.

Q9. Explain in detail the principle of contention based protocols with scheduling mechanism in detail

Q10. Explain MACAW protocol in detail.

Q11. Explain the contention based protocols with scheduling and reservation in detail.

Q12. Differentiate between MACA and MACAW.

Q13. Differentiate between HRMA and SRMA.

S.No.	HRMA	SRMA
1	A multichannel MAC protocol which is based on half-duplex, very slow frequency-hopping spread spectrum (FHSS) radios	TDMA frame based dynamic reservation MAC protocol
2	Time slot reservation protocol where each fixed time slot is assigned a frequency channel	Nodes are allocated different time slots so that transmissions are collision free
3	Uses a reservation and handshake mechanism to enable a pair of communicating nodes to reserve a frequency hop, thereby guaranteeing collision-free data transmission	Nodes use a collision-avoidance handshake mechanism and a soft reservation mechanism
4	Supports real time transmission	Developed with the main objective of supporting integrated services of real-time and non-real-time application in ad hoc networks

Q14. List the five phases of reservation protocol.

The five phases of FPRP are

1. Reservation request phase
2. Collision report phase
3. Reservation confirm phase
4. Reservation acknowledge phase
5. Packing/elimination phase

Unit-IV

Q1. What are the design challenges/ challenges of routing in WSN?

Q2. Write down the classification of protocols in WSN.

Q3. Define flat state routing protocol in WSN.

Q4. Define hierarchical state routing protocol in WSN.

Q5. Differentiate between hierarchical and flat routing protocol.

Q6. Define location based routing protocol in WSN.

Q7. Write two protocols support real time communication in sensor networks.
(Hint: SPEED and Sequential)

Q8. What are the main challenges and attacks in WSN security?

Q9. Draw the protocol stack of IEEE 802.15.4 and explain its functions.

Short questions:

Q10. Why using LEACH protocol in sensor networks?
Ans. Sensor networks should be self-organizing, hence the cluster formation and election of cluster-heads must be an autonomous, distributed process. This is achieved through network layer protocols such as the low-energy adaptive clustering hierarchy (LEACH)

Q11. Write notes on Dynamic Energy and power management

Q12. Explain in detail about aggregation as an optimization problem.

Q13. What are the components of WSN?

Q14. What is WSN?

Q15. Define LEACH.