EE5132 / EE5023 – Wireless and Sensor Networks
Part 1: Tutorial 3 – Questions

1. A given ad hoc network consists of 100 nodes, and the mobility of the nodes is such that every one second, two existing radio connections are broken, while two new radio links are established. Assuming each node is connected to exactly four adjacent nodes, find the total number of communication links in the network.

2. A network topology is shown in Figure Q2.
   (a) Using the Dijkstra algorithm determine the paths to all the nodes from node 1. How many iterations are there?

   (b) Using the Bellman-Ford algorithm determine the paths to all the nodes from node 1. How many iterations are there?

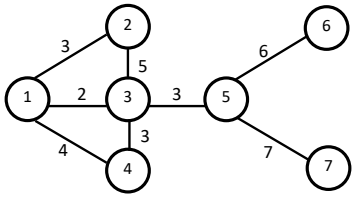

Figure Q2

3. A snapshot of an ad hoc network is shown in Figure Q3. Describe briefly the following:
   (a) How can you create a route from the source node 6 to the destination node 23 using the DSR algorithm?
   (b) What changes would you do in part (a) if you use the AODV protocol?

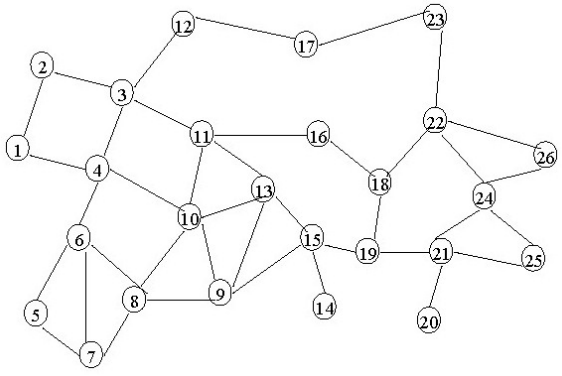

Figure Q3

4. How does the Zone Routing Protocol (ZRP) combine proactive and reactive routing? What functions do the peripheral nodes have?