1. What is the task of GeoNetworking?
2. List some properties of GeoNetworking
3. List the functions provided by GeoNetworking
4. What distinguishes geographical addressing?
5. List the state-of-the-art addressing modes and provide a brief definition of each
6. Explain briefly how geographical addressing works
7. What is GeoNetworking beaconing?
8. Describe how the location table is built through GeoNetworking beacons
9. What is the motivation behind the Single-Hop Broadcast (SHB)?
10. What is the goal of Topological Scoped Broadcast (TSB)?
11. How does TSB deals with duplicate packets?
12. Describe how GeoUnicast works. Draw a scenario where GeoUnicast could be applied
13. List the steps performed by GeoUnicast until the packet reaches the destination node
14. Outline the difference between a sender-based and a receiver-based forwarding approach
15. Describe how Greedy Forwarding (GF) algorithm works
16. Draw two scenarios with GF reaching a local minimum as well as a local maximum
17. Describe briefly the function of Contention-based Forwarding (CBF)
18. List the steps performed by the CBF
19. How does the CBF avoid packet duplications?
20. Provide a brief comparison of GF and CBF
21. What is the role of the Location Service (LS)?
22. Describe briefly two mechanisms used by LS
23. What is the task of GeoBroadcast? Draw a scenario where GeoBroadcast could be applied
24. Why is the location service not required for GeoBroadcast?
25. List two GeoBroadcast forwarding algorithms and describe their functions
26. What is the task of GeoAnycast?

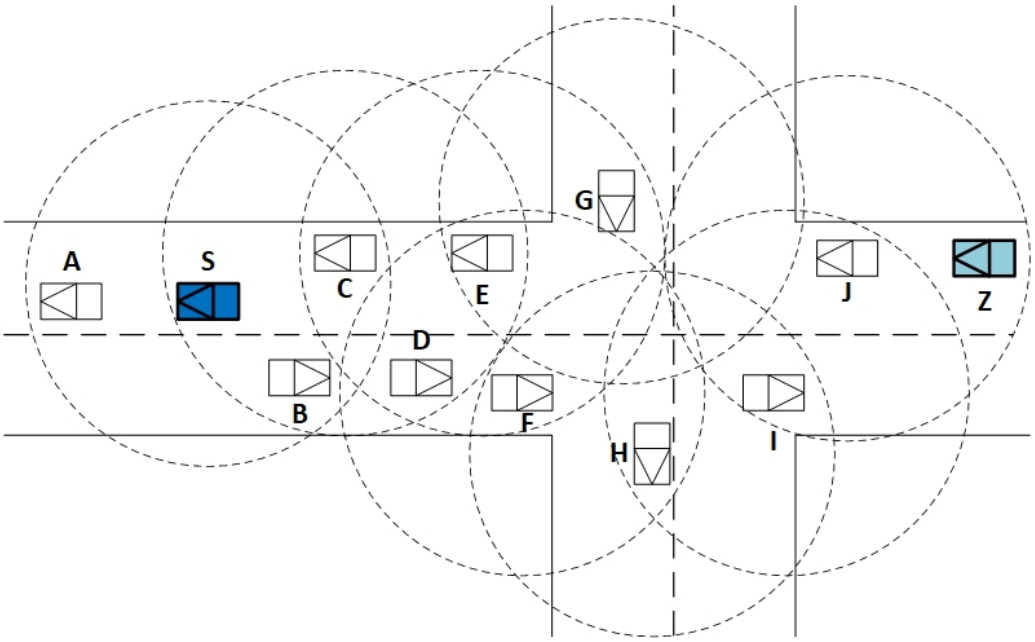

Figure 1: GeoUnicast Scenario

	S	A	B	C	D	E	F	G	H	I	J
Distance to Z [meter]	95	105	85	80	75	70	65	55	50	30	20

Table 1: Distances from vehicles to the destination vehicle Z

27. Consider the vehicular network topology shown in Figure 1. A GeoUnicast packet is sent from the originating vehicle S to the destination vehicle Z. The distance between Z and each vehicles in the network is given in table 1. The circles are representing the communication range.

    (a) Use the Greedy forwarding algorithm (GF) to compute the path from vehicle S to destination Z.

    (b) Use the contention-based forwarding algorithm (CBF) to compute the path from vehicle S to destination Z.

    (c) What is the packet latency needed to disseminate the packet from the originating vehicle S to the destination Z using both algorithms? Consider following assumptions:

    - An additional packet latency per hop of 1 ms
    - The minimum and maximum timeout for CBF are 0 ms and 20 ms, respectively
    - The maximum communication range $d_{\max} = 200$ m

    (d) Now suppose a new vehicle K is added in the network as shown in Figure 2. The distance between vehicle K and vehicle Z is 40 meter. Calculate again the path as well as the packet latency when sending a GeoUnicast packet from S to Z using both forwarding algorithms.

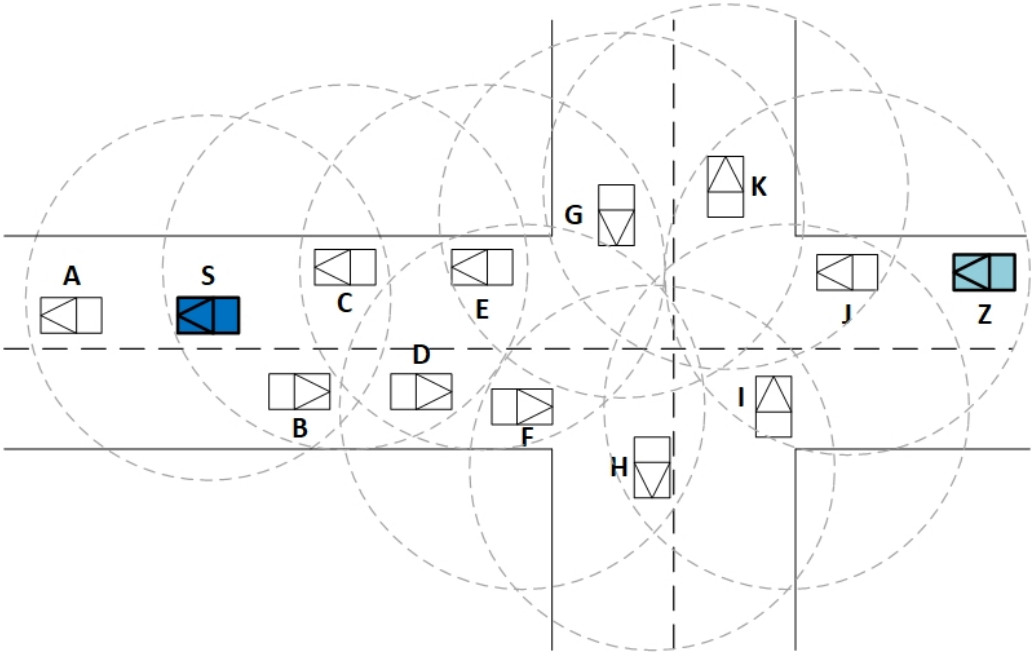

Figure 2: Updated GeoUnicast Scenario