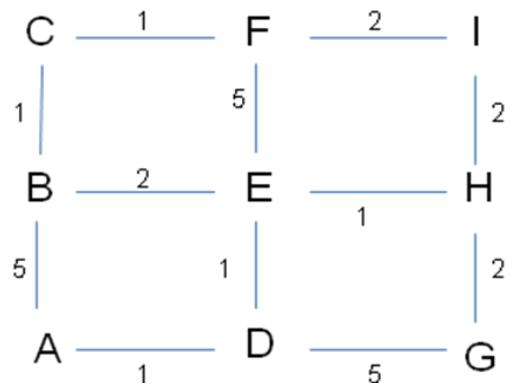
ECE686 (Wireless Communication Networks) – Assignment #2

1. A cellular system consisting of hexagonal cells has a total of 500 channels without frequency reuse. The service area is divided into 150 cells. The required signal-to-cochannel interference ratio is not less than 19 dB. $N_I = 6$, and $D_i \approx D$ for $i = 1, 2, ..., N_I$. The path loss exponent κ is equal to 4. Determine: a) the cell cluster size; b) the number of cell clusters in the service area; and c) the maximum number of active users at any instant. (8 points)

2. For the network topology on the next page, please use the Dijkstra algorithm to find the shortest path tree for **Station C**, and based on the shortest path tree, give the routing table at **Station C**. Please show your steps. Please use a square to represent a station in the permanent list, and a circle to represent a station in the tentative list. (8 points)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