Network Analysis Report – 5G vs NON

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Assignment Title: Network Metrics Comparative Analysis

1. Comparison Table

Comparison Table (5G vs NON) – With Explanations

Metric	5G	NON	Explanation
Average Degree	2.263	2.322	Indicates the average number of connections per node. NON is slightly higher, meaning slightly denser local connectivity.
Network Diameter	6	7	The longest shortest path between any two nodes. 5G is smaller → information spreads faster across the network.
Graph Density	0.03	0.026	Measures how many edges exist out of all possible edges. 5G is denser → better connectivity distribution.
Connected Components	10	30	Number of disconnected subgraphs. 5G is more connected; NON is highly fragmented.
Modularity	0.441	0.34	Indicates how well the network forms communities. 5G shows stronger community structure.
Clustering Coefficient	0.165	0.146	Measures local clustering between node neighbors. 5G has stronger local grouping.
Average Path Length	3.02	2.829	The average shortest path between any two nodes. NON is slightly lower, meaning fewer steps between nodes.
