**Data Analysis** - Sample Date for a **20 Node Network - Single Source to Multiple Destinations**

Hopfield Neural Networks Convergent Algorithms

|  |  |  |
| --- | --- | --- |
| Hopfield Neural Networks | Source to Multiple Destinations | Total Cost |
| Park & Keum | 1-> 11-> 12-> 8-> 7 -> 14 -> 15 -> 16 -> 15 -> 17 -> 18 -> 19 -> 20 | **291** |
| Park & Choi | 1-> 11-> 12-> 8-> 12 -> 13 -> 14 -> 15 -> 16 -> 15 -> 17 -> 18 -> 19 -> 20 -> | **364** |
| Ahn & Ramakrishna | No Convergence | **−** |
| Ali & Kamoun | 1-> 2-> 8-> 12 -> 13 -> 14 -> 15 -> 16 -> 15 -> 17 -> 18 -> 19 -> 20 -> | **334** |

Non-Neural Convergent Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Source to Multiple Destinations | Dijkstra Algorithm | Bellman Ford Algorithm | Floyd Warshall Algorithm |
| 1-> 8 | 47 | 47 | 47 |
| 8-> 6 | 35 | 35 | 35 |
| 6-> 17 | 86 | 86 | 86 |
| 17-> 20 | 90 | 193 | 90 |
| Total Cost For Multiple Destination | **233** | **361** | **233** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dijkstra | Bellman Ford | Floyd Warshall | Park & Keum | Ali & Kamoun | Park & Choi | Ahn & Ramakrishna |
| Total Cost For Multiple Destination | 233 | 361 | 233 | **291** | **334** | **364** | **−** |

Total Results for 40 Node Network - Single Source to Single Destination