**Data Analysis** - Sample Date for a **40 Node Network - Single Source to Multiple Destinations**

Hopfield Neural Networks Convergent Algorithms

|  |  |  |
| --- | --- | --- |
| Hopfield Neural Networks | Source to Multiple Destinations | Total Cost |
| Park & Keum | No Convergence | **−** |
| Park & Choi | No Convergence | **−** |
| Ahn & Ramakrishna | 16-> 15-> 6-> 5-> 6 -> 15 -> 17 -> 18 -> 13 -> 18 -> 19 -> 20 -> 11 -> 1 -> 2 -> 8 -> 9 -> 10 -> 11 -> 20 | **602** |
| Ali & Kamoun | 16-> 15-> 6-> 5-> 6 -> 7 -> 14 -> 13 -> 12 -> 8 -> 2 -> 8 -> 12 -> 19 -> 20 | **452** |

Non-Neural Convergent Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Source to Multiple Destinations | Dijkstra Algorithm | Bellman Ford Algorithm | Floyd Warshall Algorithm |
| 16 -> 5 | 110 | 110 | 110 |
| 5-> 13 | 80 | 121 | 80 |
| 13-> 2 | 107 | 109 | 107 |
| 2-> 20 | 59 | 66 | 59 |
| Total Cost For Multiple Destination | **356** | **406** | **356** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dijkstra | Bellman Ford | Floyd Warshall | Park & Keum | Ali & Kamoun | Park & Choi | Ahn & Ramakrishna |
| Total Cost For Multiple Destination | **356** | **406** | **356** | **−** | **452** | **−** | **602** |

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