|  |  |  |  |
| --- | --- | --- | --- |
| Title | Evaluation of TSP for Emergency Routing | | |
| Author(s) Name | A. G. M. Zaman, Sajib Hasan, Mohammad Samawat Ullah | | |
| Contact Email(s) | agmzaman@aiub.edu | | |
| Published Journal Name | International Journal of Information Technology and Computer Science (IJITCS) | | |
| Type of Publication | Journal | | |
| Volume | 13 | Issue | 1 |
| Publisher | MECS Press | | |
| Publication Date | Feb. 2021 | | |
| ISSN | 2074-9007 (Print), ISSN: 2074-9015 (Online) | | |
| DOI | 10.5815/ijitcs | | |
| URL | https://www.mecs-press.org/ijitcs/v13n1.html | | |
| Other Related Info. |  | | |
|  | | | |

|  |  |
| --- | --- |
| Abstract |  |
| The paper considers the symmetric traveling salesman problem and applies it to sixty-four (64) districts of Bangladesh (with geographic coordinates) as a new instance of the problem of finding an optimized route in need of emergency. It approached three different algorithms namely Integer Linear Programming, Nearest-neighbor, and Metric TSP as exact, heuristic, or approximate methods of solving the NP-hard class of problem to model the emergency route planning. These algorithms have been implanted using computer codes, used IBM ILOG CPLEX parallel optimization, visualized using Geographic Information System tools. The performance of these algorithms also has been evaluated in terms of computational complexity, their run-time, and resulted tour distance using exact, approximate, and heuristic methods to find the best fit of route optimization in emergence thus contributing to the field of combinatorial optimization. | |