**Paper No: PU-EEE – 04**

**A Comparative and Novel Solution for Unit Commitment Problem Using Hybridised BAT Search Approach for 10-Unit System**

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**Abstract**

To model a most cost effective and reliable power system, the committing of generating units with least cost is done through proper selection of heuristic/meta-heuristic optimisation. For security constrained unit commitment (SCUC) problem, here the solution is formulated by defining both equality and inequality constraints of the considered system (minimum up- down times, power balance, spinning reserve etc.). In this paper, the solution is subjected to generate an optimal solution using Hybridised- BAT search algorithms for 10- unit systems.  The reduced optimal cost values are compared with reviewed heuristic techniques using MATLAB platform, to assure the proposed technique’s effectiveness.

**Keywords:**

Security constrained unit Commitment, BAT algorithm, BAT-GA algorithm, BAT- ABC algorithm, Constraints

**Publication Details:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Journal Name** | **Vol.** | **Month & Year**  | **Page No.** | **Publisher** | **Scimago Ranking** |
| International Journal of Advanced Science and Technology | 29 | Feb. 2020 | 2524-2535 | [Science and Engineering Research Support Society](https://www.scimagojr.com/journalsearch.php?q=Science%20and%20Engineering%20Research%20Support%20Society&tip=pub) | Q4 |