**APPENDIX A**

**Table A1 Abbreviated names used throughout the article for algorithms and other significant terms**

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| --- | --- | --- |
|  | **:** | *Central processing unit, graphics processing unit, and Quantum processing unit* |
|  | **:** | *Classical memory or Classical-RAM, and Quantum memory or Quantum-RAM* |
|  | **:** | *Enhanced processing-based exact algorithm for multiple pattern matching* |
|  | **:** | *Enhanced quantum-based combined exact algorithm for multiple pattern matching* |
|  | **:** | *Deoxyribonucleic acid, and Ribonucleic acid* |
|  | **:** | *Quantum-exact match, and Grover’s search operator* |
|  | **:** | *Knuth-Morris-Pratt algorithm, and Boyer-Moore algorithm* |
|  | **:** | *Aho-Corasick algorithm, Commentz-Walter algorithm, and Wu-Manber algorithm* |
|  | **:** | *Backward DAWG Matching algorithm, and Backward Set Oracle Matching algorithm* |
|  | **:** | *Shift-OR algorithm, Shift-AND algorithm, and Backward Non-Deterministic DAWG Matching* |
|  | **:** | *Ramesh-Vinay algorithm based on quantum deterministic sampling method* |
|  | **:** | *Quantum exact pattern matching algorithm, and Quantum approximate pattern matching algorithm* |
|  | **:** | *processing-based exact algorithm, and Quantum-based combined exact algorithm* |
|  | **:** | *Quantum exact multiple pattern, and Quantum approximate multiple pattern matching algorithm* |
|  | **:** | *Quantum exact simulation toolkit (used for the proposed quantum algorithm simulation)* |
|  | **:** | *Algebraic normal form (used to realize and other quantum specific operations using )* |
|  | **:** | *Hamming distance method (used for approximate text filtering and matching)* |
|  | **:** | *Quantum approximate filtering (used for reducing the size of search space in algorithm)* |
|  | **:** | *Exact quantum polynomial time, and Bounded error quantum polynomial time* |
|  | **:** | *Quantum counting (used for unknown number of solutions), and Quantum amplitude estimation* |
|  | **:** | *Exact quantum counting algorithm (used to obtain accurate number of search solutions)* |
|  | **:** | *Approximate quantum counting algorithm (used to estimate the number of search solutions)* |
|  | **:** | *Severe Acute Respiratory Syndrome Corona-Virus 2 (used as gene sequence database in simulation)* |
|  | **:** | *Quantum assembly instructions (used to record operations executed on registers by quantum gates)* |
|  | **:** | *Number of correctly identified patterns (evaluated parameter in simulation)* |
|  | **:** | *Number of incorrectly identified patterns (evaluated parameter in simulation)* |
|  | **:** | *Number of incorrectly missed patterns (evaluated parameter in simulation)* |
|  | **:** | *Average Execution Time of Searching, and Workspace (evaluated parameters in simulation)* |