9521 Exp 7.

1.

Advantage	Disadvantage
- Allows systematic exploration of possible states and transitions - can find optimal sol^n for problem with well-defined state and transition rules - useful for modeling and sbari solving a wide range of problems in AI.	- complexity increases exponentially with problem size - May get stuck in local optimal or search spaces with infinite loops. - Requires careful design and implementation to ensure efficiency and correctness.

2.

- simple and easy to implement. - Iterative improvement leads to quick convergence. - suitable for problems with a continuos search space	- prone to getting stuck in local optima, esp in rugged search spaces. - cannot guarantee finding the global optimum. - sensitive to initial starting points.

3 simple hill climbling: Iteratively makes small improvements in the current solution.
Sleepless Ascent hill: considering all neighbours statel and selects the one with the highest improvement.

Random Restart hill climbing: Randomly restart the search from different initial states to escape local optimal.

Simulated Annealing: Introduces randomness to escape local optimal by allowing uphill moves with a decreasing probability.