Resources on Ant Colony Optimization (ACO) :

ACO Introduction & Beyond (IIT Bombay, 2009): A comprehensive slide deck covering ACO fundamentals, history, and main variants.

Ant colony Optimization Algorithms : Introduction and Beyond

Ant Colony Optimization Tutorial (Budi Santosa, 2015): A 12-page technical guide by a professor, providing a step-by-step explanation of ACO with mathematical formulation. It describes how real ants' pheromone-laying behavior is mimicked in algorithms.

aco-tutorial-english2.pdf

Authoritative Textbook on ACO (Comprehensive Guide)

For an in-depth yet well-structured resource, "Ant Colony Optimization" by Marco Dorigo and Thomas Stützle (2004) is the seminal textbook on ACO

aco-book.pdf

ACO Applications in Routing and Networking

One of the most prominent application areas for ACO is network routing. ACO-based routing algorithms (such as in AntNet) use swarms of "ant" agents to find efficient paths in communication networks by updating pheromone-like routing tables. For a deep dive into this topic:

PhD Thesis — Ant Colony Optimization and its Application to Adaptive Routing in Telecommunication Networks (G. Di Caro, 2004):

DiCaroPhDThesisAbstract.pdf

DiCaroPhDThesisFull.pdf

ACO in AI and Advanced Optimization Contexts:

In the broader artificial intelligence and optimization landscape, ACO is recognized as a powerful swarm intelligence technique for solving difficult combinatorial problems.

"Ant Colony Optimization: Overview and Recent Advances" (Dorigo & Stützle, preprint):

ACO-MetaHandbook_preprint.pdf