

# Bonsai: Integrating Art, Science, and Horticultural Practice

**Meenakshi Rathour**

Department of Botany

Hemwati Nandan Bahuguna Government PG College, Prayagraj, Uttar Pradesh, India.

meenakshirathour10@gamil.com

**Abstract:** *Bonsai is the art of growing small trees in a special way. It started as a spiritual and artistic tradition but now is being studied by scientists too. This review brings together new knowledge about how bonsai trees are grown, how they adapt to being small, how to care for their soil and water, and how to handle pests and diseases. It also looks at how bonsai contributes to understanding plant growth, stress responses, and making cities greener. Even though bonsai has strong cultural roots, modern research is using science to improve how bonsai trees grow and survive. By combining tradition with science, this review gives a full picture of where bonsai is now and where it might go in the future.*

**Keywords:** Bonsai; horticulture; miniaturization; plant physiology; pruning; substrate; watering; pest management

