

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**

**CERTIFICATE**

This is to certify that the thesis titled **Exploring Immobilization Potential of Heavy Metals in Fly Ash and Copper Tailings and their Sustainable Utilization using Life Cycle Assessment** submitted by **Rahul Dandautiya** ID No **2013PHXF0411P** for award of Ph.D. of the Institute embodies original work done by him/her under my supervision.

**Signature of the Supervisor:**

**Name in capital letters: PROF. AJIT PRATAP SINGH**

**Designation:** Professor

**Date:**