Certificate

This is to certify that the thesis titled *High performance optical and gas sensors based on 2D/3D heterostructures*, submitted by *Neeraj Goel* (P15VSS202) to the Indian Institute of Technology Jodhpur for the award of the degree of *Doctor of Philosophy*, is a bonafide record of the research work done by him under my supervision. To the best my knowledge, the contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Mahe

Dr. Mahesh Kumar Ph.D thesis Supervisor 13/11/2020