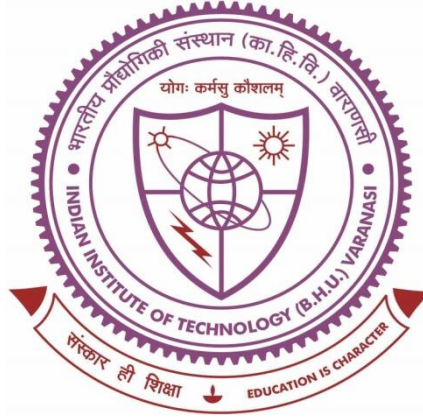


# **Design, Simulation and Performance Improvement Studies of the Free Electron Laser Amplifiers**



**Thesis submitted in partial fulfillment  
for the Award of Degree**

**Doctor of Philosophy**

**by**

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