CERTIFICATE

This is to certify that the project entitled "Vibrational Properties and DFT

Calculations" submitted by Sanju Suryvanshi in the partial fulfilment for the

requirements for the requirements for the award of Master of Science Degree in

Physics at Department of Pure and Applied Physics, Guru Ghasidas

Vishwavidyalaya, Bilaspur (C.G.) 495009, India is an authentic work carried out by

under my supervision and guidance.

To the best of my knowledge, the matter embodies in the thesis has not been

submitted to any other University/Institute for the award of Degree or Diploma.

Dr. Rambabu Pachineela

ASSISTANT PROFESSOR

Department of Pure & Applied Physics

GGV, Bilaspur (C. G.)

APPROVAL CERTIFICATE

This is to certify that the project entitled "Vibrational Properties and DFT

Calculations" submitted by "Sanju Survvanshi"

is approved for the award of Master of Science in Physics.

Prof. P. K. Bajpai

विभागाध्यक्ष/H.O.D. शुद्ध एवं अनुप्रयुक्त भौतिकी विभाग Dept. of Pure & Applied Physics गुरु प्रासीदास विश्वविद्यालय

गुरु घासीदास विश्वविद्यालय Guru Ghasidas Vishwavidyalaya बिलासपुर (छ.ग.)/Bilaspur (C.G.)