

CERTIFICATE

It is certified that the work contained in the thesis titled *EXPERIMENTAL AND NUMERICAL STUDY OF GASIFICATION AND FILTRATION PROCESS IN DOWNDRAFT GASIFIER SYSTEM* by *SUNIL KUMAR* has been carried out under our supervision and that this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive Examination, Candidacy and SOTA for the award of Ph.D. Degree.

Supervisor

Dr. Om Prakash Singh
(Associate Professor)
Department of Mechanical Engineering,
Indian Institute of Technology,
(Banaras Hindu University),
Varanasi- 221005



Co-Supervisor

Dr. Bhupendra Singh
(Ramanujan Fellow)
CSIR-Advanced Materials
& Processes Research
Institute (AMPRI),
Hoshangabad Road,
Bhopal-462026