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Following students have carried out their Project work for the academic session 2021-22

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A

Thesis on

**Studies on Utilization of Dust Pellet in a Fluidized
Bed Incinerator**

Submitted by

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(Roll No.20702001)

Submitted in partial fulfilment for the degree of

Master of Technology

Under the Guidance

Gautam Prasad Dewangan



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CERTIFICATE

This is to certify that thesis on "Studies on Utilization of Dust Pellet in a Fluidized Bed Incinerator" submitted by Dhruvi Sundar Behera (20702001), in partial fulfilment of the requirements for the prescribed curriculum of Master of Technology in Chemical Engineering at the School of Studies of Engineering & Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur for the session 2021-2022 is an authentic work to the best of my knowledge and belief.

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ABSTRACT

Biomass needs to be remembered as one of the promising sources of energy for mitigating greenhouse gas (GHG) emissions. Co-firing biomass with coal has grown to be an answer for assembly the power crisis in addition to reducing pollutant emissions. The biomass fuels are commonly found from woody to grassy and solid recovered fuels relying on their foundation and properties. The ashing process, fly ash quality relies upon the conversion technology, capture technology, and biomass properties. To manipulate the furnace performance and production, burnout, finest injection of biomass sharing with the unique information of particle ignition properties also are important. A wide variety of small/laboratory scale and industrial-scale experiments had been carried out with the aid of using one-of-a-kind researchers. Different experimental research performed is reviewed, grouped, and summarized primarily based totally on the fuel processing technology, burnout performance, emission level, environmental aspect, ash facts and deposit characteristics, the impact of co-firing ratios, and adoption of oxy-fuel co-firing. Overall, this paper will highlight existing technologies and rising trends in co-firing various styles of biomass and its use as fuel in fluidized bed combustor, gasifier and pyrolizer, which will be useful for future investigations.

Keywords – Biomass, Co-firing, Municipal solid waste, Refuse derived fuel, Fluidized-Bed Incinerators, Sewage Sludge, Traces Metal Behaviour

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