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**HEAT TREATMENT OF GEMS WITH
SPECIAL EMPHASIS ON GEUDA STONES**

by

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ABSTRACT

Detailed literature survey is presented on gem minerals, corundum family of gems, colour in gem stones and heat treatments. Physical and chemical investigations on gem minerals are conducted to understand the nature of treatable stones. Treatable stones are characterized by the presence of different types of impurities in the basic corundum structure. Optimum heating rates, cooling rates and soaking periods are established for geuda and ottu stones. Investigations carried out on over one thousand and twenty samples revealed that certain types of geuda stones can be converted into good blue sapphires while other varieties become light blue or dark blue stones. Removal of bluish and brownish tints in red geuda stones are not completely satisfactory. A comparative study of the Lakmini furnace with the Toda furnace was carried out to ascertain the more economic one.

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