

VISHVESVARAYA TECHNOLOGICAL UNIVERSITY "JNANA
SANGAMA", BELAGAVI-590018,



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A PROJECT REPORT ON
"DESIGN AND DEVELOPMENT OF EARTH TUBE HEAT EXCHANGER
FOR ROOM AIR CONDITIONING"

SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF
THE AWARD OF DEGREE OF

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

SUBMITTED BY

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CERTIFICATE

This is to certify that the technical seminar report entitled "DESIGN AND DEVELOPMENT OF EARTH TUBE HEAT EXCHANGER FOR ROOM AIR CONDITIONING" successfully carried out by SANTHOSH R (1SV19ME011), SRIHARI REDDY H V (1SV19ME013), SRIKANTH R (1SV19ME014), YATHISH H R (1SV19ME015) the bonafide students of SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY TUMKUR-572106, in partial fulfillment for the award of degree of Bachelor Of Engineering In MECHANICAL ENGINEERING Of The Visvesvaraya Technology University, Belagavi-560014 during the year 2022-2023. All the corrections/suggestions indicated for the internal assessments have been incorporated in report. The Project report has been approved as it satisfies the academic requirements in respect to the Project work prescribed for the said degree.

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ABSTRACT

Earth tube heat exchanger systems can be used to cool the building in summer climate and heat the buildings in winter climate. In a developing country e.g. India, there is a huge difference in demand and supply of electricity and rising electricity prices have forced us to look for cheaper and cleaner alternative. Our objective can be met by the use of earth tube heat exchangers and the system is very simple which works by moving the heat from the house into the earth during hot weather and cold weather. Measurements show that the ground temperature below a certain depth remains relatively constant during the year. The experimental setup consisted of a 3.75 m long Copper tube buried at a depth 0.5 m and having a diameter of 0.013 m. A 650 W blower is used for transporting the air in an open loop system.


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