

**ANNA UNIVERSITY: CHENNAI 600 025**



**BONAFIDE CERTIFICATE**

Certified that this project report “**A CLUSTER BASED ENERGY EFFICIENT AND RELIABLE ROUTING PROTOCOL IN WIRELESS SENSOR NETWORKS**” is the bonafide work of **ALOYSIA J (312315205010)** and **HEMASHRI K (312315205060)** who carried out the project work under my supervision, for the partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology.

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**Branch & Semester** : Information Technology (VIII)

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The report of the project work submitted by the above students in partial fulfillment for the award of Bachelor of Technology degree in Information Technology of Anna University were evaluated and confirmed to be reports of the work done by the above students.

**(INTERNAL EXAMINER)**

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## ACKNOWLEDGEMENT

The contentment and elation that accompany the successful completion of any work be incomplete without mentioning the people who made it possible.

We express our gratitude in thanking our Chairman **Dr. B. Babu Manoharan M.A., M.B.A., Ph.D.**, our respected Managing Director **Mrs. B. Jessie Priya M.Com.**, our Director Sir **Mr. B. Shashi Sekar M.Sc.**, our respected Principal **Dr. Vaddi Seshagiri Rao M.E., M.B.A., Ph.D** for having encouraged us to do our under graduation in Information Technology in this esteemed college.

We express our sincere thanks and most heartfelt sense of gratitude to our eminent Head of the Department- Lab Affairs **Dr. V. Muthulakshmi M.E., Ph.D.**, for having extended her helping hand at all times.

It is with deep sense of gratitude that we acknowledge our indebtedness to our supervisor **Mrs. Divya J, M.Tech.**, a perfectionist for her expert guidance and connoisseur suggestion.

Last but not the least, we thank our family members and friends who have been the greatest source of support to us.

## **ABSTRACT**

In recent years, WSN (Wireless Sensor Network) is the most standard services employed in commercial and industrial applications. A Wireless sensor network can be defined as a network of devices that can communicate the information gathered from a monitored field through wireless links. The data is forwarded through multiple nodes, and with a gateway, the data is connected to other networks like wireless Ethernet. A Clustering based Energy Efficient and Reliable Routing Protocol is used to form data clusters. In the Leach protocol, the nodes transfer the data directly to the base station without any Cluster Heads. Therefore during data transfer, if the distance between the nodes and the base station is long, then there will be more energy loss. To overcome this issue, Honey Bee algorithm is used. In this algorithm, data packets are transferred from nodes to Cluster Head. The Cluster Head finally transfers the packet to the base Station. This reduces the transmission delay of the packets. Through Cluster Head cooperation, energy efficiency and throughput can be achieved.