CERTIFICATE

I certify that the thesis entitled "**SiC-Chain: A simple, secure IoT System Architecture for small scale Cold Chain Applications**" submitted for the award of Doctor of Philosophy (Ph.D.) by **Mrs. Divya James** is the record of research work carried out by her during the period from **January 2019 to October 2023** under my guidance and supervision, and that this work has not formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or other Titles in this Institute or any other University or Institution of Higher Learning.

30/10/2023

Signature of the
Head of the Department

30/10/2023

Signature of the Supervisor

30/10/23

Signature of Dean

DECLARATION

I declare that the thesis entitled **"SiC-Chain: A simple, secure IoT System Architecture for small scale Cold Chain Applications"** submitted by me for the award of Doctor of Philosophy (Ph.D.) is the record of the work carried out by me during the period from January 2019 to October 2023 under the guidance of **Dr. TKS LAKSHMI PRIYA,** M.E, Ph.D., (Info & Comm. Eng), Professor, Department of Printing Technology at Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. And has not formed the basis for the award of any Degree, Diploma, Associateship, Fellowship, Titles in this Institute or any other University or other similar Institution of Higher Learning or other similar title to any candidate of this or any other University.

30/10/2023
Signature of the Supervisor

30/10/2023
Signature of the Candidate

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Divya James

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AES	Advanced Encryption Standard
API	Application Programming Interface
CFRG	Crypto Forum Research Group
DES	Data Encryption Standard
DP	Differential Probability
ERP	Enterprise Resource Planning
HTTP	Hypertext Transfer Protocol
IDS	Intrusion Detection System
IEEE	Institute of Electrical and Electronics Engineers
IEEE-SA	IEEE Standards Association
IETF	Internet Engineering Task Force
IoT	Internet of Things
ISO	International Organization for Standardization
LAN	Local Area Network
LP	Linear Probability
LWC	Lightweight Cryptography
MAC	Media Access Control
MQTT	Message Queuing Telemetry Transport
NIST	National Institute of Standards and Technology
PKI	Public Key Infrastructure
RFID	Radio Frequency Identification
SAC	Strict Avalanche Criterion
SCM	Supply Chain Management
SPN	Substitution-Permutation Network
WAN	Wide Area Network