DEPARTMENT OF MECHANICAL ENGINEERING
NSS COLLEGE OF ENGINEERING,
PALAKKAD - 8

BTECH FINAL PROJECT 2023-24

1. **Project No : A072024**
2. **Project Title : Design and development of an IOT-enabled fruit drier system utilizing waste heat recovered from domestic refrigerators**
3. **Students Name :**

Register Number	Name	Roll No	Class
NSS20ME044	ANIRUDHAN R	36	S8MA
NSS20ME007	ABHIMANYU JS	7	S8MA
NSS20ME015	ADARSH SANKAR	14	S8MA
LNSS20ME129	AJAY SK	57	S8MA

4. **Project Guide : VINAY B**
5. **Abstract :**

Refrigeration is the process of removing heat from an enclosed space or from a substance for the purpose of lowering the temperature. Currently, it is claimed that the refrigeration sector consumes about 17% percentage of the total electricity used worldwide, where there are currently more than 1.5 billion domestic refrigerators in use. During the working of a refrigerator, it releases some amount of heat to the surroundingwhichisconsideredaswasteheat.Theaimofthisproposedprojectworkistodevelopafruit drier that utilizes refrigeration waste heat for food processing applications. The project is designed to improve the current refrigerators by recovering the waste heat, storing it in the allocated chamber and continuously monitoring the conditions inside the chamber via IoT, using a number of sensors. The developed system will be capable of saving a huge amount of energy which will be used to store or dry food items. Also, this smart product will be helped to store the food items and dry the fruits, which are highly demanding for an extremely populated state like Kerala.

6. **Project Picture :**