

PROGRAM BOOK FOR
SEMESTER INTERNSHIP

Name of the Student: k. Dharani

Name of the College: S.V.B Government Degree college koilakuntla

Registration Number: 21110041010

Period of Internship: From 20-01-2024 30-04-2024

Name & Address of the Intern Organization Edula Siva Reddy cold
storage koilakuntla (M)
NOL (Dist) Sanderdenne.

Rayala seema **University**
YEAR 2023-24

An Internship Report on
Enhancing cold storage efficiency and
Substability (Long term Internship)
(Title of the Semester Internship Program)

Submitted in accordance with the requirement for the degree of
3rd B.A (H.E.P) 6th Sem

Under the Faculty Guideship of
T. Nageswar Reddy
(Name of the Faculty Guide)

Department of
S.V.B Govt. Degree college
(Name of the College)

Submitted by:
K. Pharani
(Name of the Student)

Reg.No: 21110041010

Department of History
Sri Vasavi Bommidala Government Degree college
Koilakuntla.
(Name of the College)

Student's Declaration

I, Kalayagani Dharani a student of Internship
Program, Reg. No. 2116041010 of the Department of B.A (S.V.B Gant degree college)
College do hereby declare that I have completed the mandatory internship
from 22-01-2024 to 30-04-2024 in adula Sivarreddy (Name of
the intern organization) under the Faculty Guideship of
P. Nagaraj Reddy (Name of the Faculty Guide), Department of
History, S.V.B Gant degree college, Kaitkuntla.
(Name of the College)

K. Dharani
(Signature and Date)

Official Certification

This is to certify that Long term internship (Name of the student) Reg. No. 21110041010 has completed his/her Internship in cold storage (Name of the Intern Organization) on Edula Siva Reddy cold storage (Title of the Internship) under my supervision as a part of partial fulfillment of the requirement for the Degree of History in the Department of S.V.B. Govt. Degree College (Name of the College).

This is accepted for evaluation.

For: EDULA SIVA REDDY COLD STORAGE
E-Per [Signature]
(Signatory with Date and Seal)
Proprietor

Endorsements

[Signature] 20/11/24
Faculty Guide Nageswar Reddy

Head of the Department :- History

Principal

[Signature]
PRINCIPAL
S.V.B. GOVT. DEGREE COLLEGE
KOILKUNTALA, NANDYAL (Dt.)

Certificate from Intern Organization

This is to certify that Long term internship (Name of the intern)
Reg. No 21110041010 of Sri B. Govt. Degree College (Name of the
College) underwent internship in Edula Siva Reddy cold storage (Name of the
Intern Organization) from Koilakuntla to Koilakuntla.

The overall performance of the intern during his/her internship is found to be
satisfactory. (Satisfactory/Not Satisfactory).

For: EDULA SIVA REDDY COLD STORAGE

E. Her. M. M.
Authorized Signatory, Proprietor with Date and Seal

Acknowledgements

Long term Internship project work
2024

Title :-

Edula Siva Reddy cold storage

Local physical internship opportunity
for maintain support position of
M/s Edula Siva Reddy cold storage.
Cold storage founded by Edula
Siva Reddy in Andhra Pradesh.
this location of Koilakuntla
Mandalam Soudardinne village.

what are they under those crops:-

- * Red cillys. and
- * Red gram's
- * Moong dal
- * chana,
- * whole moong

* Block grams are all the it is kept in cold storage.

Drage Acknowledgment high of building for a chilly kept in storage room typalcy, chilly cold storage lifts of 6 floor.

then Ground floor (12) + 5 floors.
(9 each) in export product.

the Redchilly stock loading to truck - chilly stock storage lift to chillies and other product export of Andrapradesh.

Example:- Drychillys local karnool market in Andrapradesh and dry chilly Red market of Guntur in Andrapradesh.

Quinta - INR

MARKET	DISTRICT	price
Hindupuram	Anantapuram	13000/-
kurnool	kurnool	14000/-
Guntur	Guntur	13500/-

Topic:- cost-benefit Analysis of Implementing Green practices in Agricultural cold storage unit

Internship Goals

1. Cost-benefit Analysis

Conduct a comprehensive evaluation of the financial implications of implementing green practices in an agricultural cold storage unit.

2. Sustainability Integration:- explore and recommend environmentally friendly practices that align with the principles of sustainability in cold storage refrigerations.

3. Decision Support:- provide valuable insights to stakeholders by presenting a clear cost-benefit perspective to facilitate decision making regarding the adoption of green initiatives.

Internship Responsibilities

1. Data collection :- Gather relevant data on current cold storage practices, energy, consumption, and associated costs.

2. Literature Review :-

conduct a thorough review of literature on sustainable and green practices in cold storage and their impacts on operational costs.

3. Financial Analysis :-

utilizes financial models to assess the costs associated with implementing green technologies and practices in agricultural cold storage.

4. Recommendation & Development :-

propositional recommendations for integrating green practices based analysis.

Contents

CHAPTER 1:- Introduction

- 1.1 Importance of temperature control in the cold storage.
- 1.2. Importance of maintaining relative humidity in cold storage.
- 1.3. Requirement of air circulation in the cold storage.

Chapter 2 :- cold storage :-

- 2.1 classification of cold storage
- 2.2. Fundamental of cold storage design
- 2.3 Insulation.
 - 2.3.1 Economic consideration
 - 2.3.2 R-value
- 2.4. Heat load in cold storage
- 2.5. Refrigeration system
- 2.6 Refrigerants.

chapter-3 :- Literature Review

chapter-4 :- survey and data collection

- 4.1. cold storage building details.

- 4.2. Refrigeration system detail
- 4.3 3-D simulation model
- 4.4 wall dimension of building
- 4.5 load calculation

chapter-5 :- Green wall

5.1 Introduction

5.1.1 Advantage of green wall

5.1.2 mechanism of heat transfer. through green walls.

5.2 experiment

5.3 observation

5.4 Result

chapter-6 :- Geothermal loop :-

6.1 Introduction

6.1.1 Earth soil temperature

6.1.2 schematic diagram

6.2 mathematical modelling

6.3 simulation of geothermal loop

6.4. Result.

Chapter - 7:-

Cascade Refrigeration

7.1 Introduction

7.2 Thermal analysis

7.2.1 compression absorption cascade refrigeration system.

7.2.2 Requirement of m³ of biogas per month

7.2.3 compression cascade refrigeration system (CCRS)

7.3 cost analysis (electricity Bill)

7.4 Environmental impact

Chapter - 8:-

Result and discussion

conclusion and future scope:-

References:-

convection air circulation.

In forced air circulation fan or flows from the cooling space to the cooling coils. Rapid circulation by blower or fan causes moisture loss from the product. Hence proper balance between the cooling surface and the rate of air flow. Units with blowers or fan propose high relative humidity demand.

In conventional air circulation system air flow due to natural convection caused by the density difference produced between the hot air and cold air. Air after receiving heat rise up and cold air set led down this set up the flow current and warm air flows back.

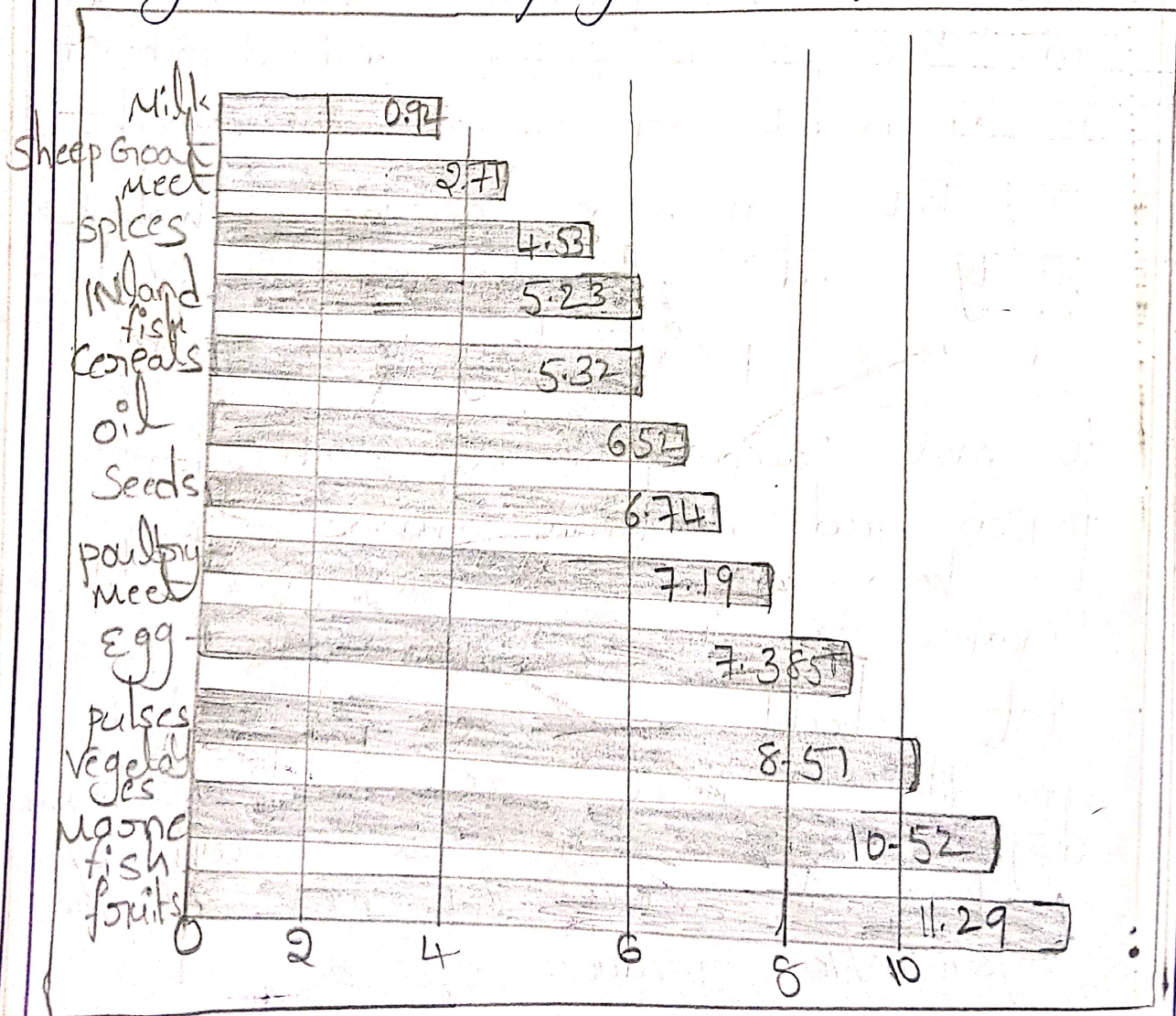
CHAPTER 1: EXECUTIVE SUMMARY

The internship report shall have a brief executive summary. It shall include five or more Learning Objectives and Outcomes achieved, a brief description of the sector of business and intern organization and summary of all the activities done by the intern during the period.

Introduction :-

A fundamental part of our life is food, therefore the quality of it is of great concern. Cold storage warehouses store food after production and before foods are transported and distributed to Supermarkets or catering establishments so that consumers can get highest quality and safe to consume products. Cold storage provides long term storage to meet seasonal demand specially for frozen food. Maintaining adequate storage else how temperature will cause chilling injuries to the products. Another factor that should be worried about is humidity of control as relative humidity of store house should be kept at 80-90% for most of the perishable produce.

The consumers have become more conscious about what and how they eat. As demand for healthy food increase the storage easy availability necessitate the cold storage building with out cold storage benefit. to reduce the deterioration of the produce post harvest low temperature condition inside the cold storage facility. most fruits and vegetables spoilage of food.



1.1 The annual wastage (%) of different food commodities.

The cold storage facility improves income by decrease in post-harvest waste, resulting in increased sale. Food waste now have become global challenge. It is estimated that 1.3 billion tonnes of food are wasted globally each year, i.e. one third of the amount produced for human consumption according to the food and agriculture organisation (FAO) of the United Nations. It clearly means that food produced for every one on the earth but not every one is guaranteed to have food every day. The amount of food loss per year close costs 2.6 trillion USD and is more than enough to feed 85 million hungry people on earth but not every one is guaranteed. The amount of food loss per year costs 2.6 trillion USD and is more. This food loss causes malnutrition that is the condition of insufficient intake of necessary biological nutrients. If we talk about India alone there is 4.4 billion GBP worth.

if we talk about there
is 4.4 billion GBP worth of
fruit and vegetables being wasted
due to the lack of cold storage
facility India is the second largest
producer of fruit (88.98 million
tonnes) and vegetables (162-90 million
tonnes) and with this production
India is contributing 11-36% and
14-04% global fruit and vegetable
production, respectively even after his huge
production level post harvest management
is greatly discouraged in India (Husain et al.
2021a). Approximately 61 million tonnes
if we talk in terms of fruit and
vegetables only, about 34 million tonnes
if we talk in term Brazil
and Thailand and approx 83% 78%
70% and 30% respectively.

CHAPTER 2: OVERVIEW OF THE ORGANIZATION

Suggestive contents

- A. Introduction of the Organization
- B. Vision, Mission, and Values of the Organization
- C. Policy of the Organization, in relation to the intern role
- D. Organizational Structure
- E. Roles and responsibilities of the employees in which the intern is placed.
- F. Performance of the Organization in terms of turnover, profits, market reach and market value.
- G. Future Plans of the Organization.

Cold storage in India

The first problem is that even if enough cold storage the Government is offering some subsidies to try to park this - but it is still subsidies to try to park gather capital intensive there are also very different business models at play.

This need is towards storing grains and selling it at a better price once the harvest season is over. Domestic for example climbs as high as 3-4 times of season and is very easy to store most farmers don't do it because they don't have space to store it.

Chilly cold storage of 5,000 MT

Approximately one acre of land is required for a 5000 MT cold storage for chilli.

This land required is sufficient for cold storage, machine room, condenser tank and condenser, power house transformers, and also 20 feet free space in all direction for fire and safety guidelines.

The approximate building length width and height required for a 2,500 MT chamber :-

Generally for chilly storage of 5,000 MT, customers build two chambers of 2,500 MT, each they build two the cold storage in rectangle shape, and standard size of each 2,500 MT chamber is $140 \times 40 \times 57$ ft. (L x W x H). Depending on the customers land length the building is build storage.

Ammonia for chilly cold storage :-

Generally chilly cold storage are above 5000 capacity in this range ammonia refrigerant is more economical than Freon.

CHAPTER 3: INTERNSHIP PART

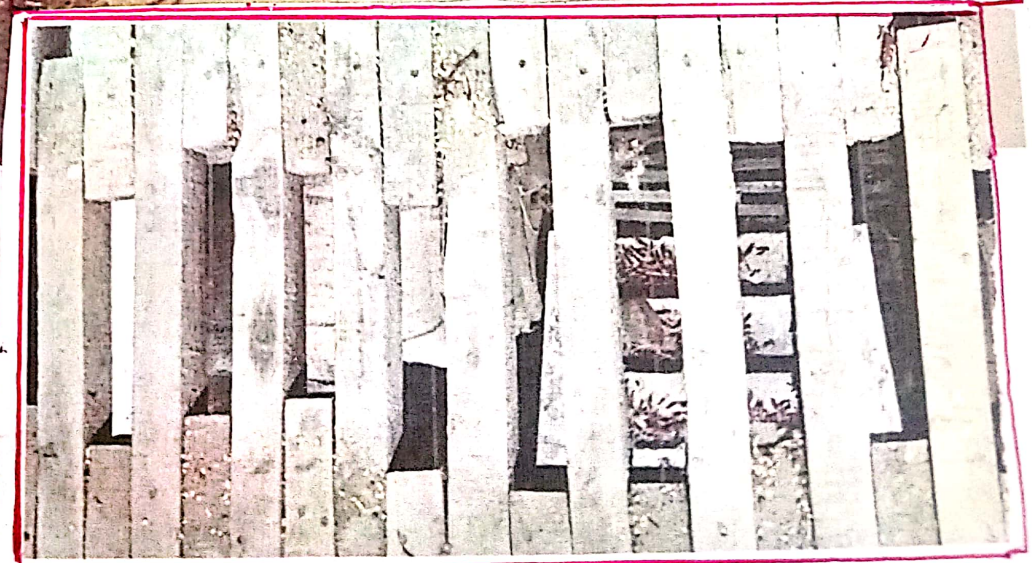
Description of the Activities/Responsibilities in the Intern Organization during Internship, which shall include - details of working conditions, weekly work schedule, equipment used, and tasks performed. This part could end by reflecting on what kind of skills the intern acquired.

cold storage - Down throw product collection in
were Fins for fans for high tube test
pressure to ensure leak tests call

downward air flow pattern for equal
distribution of air check peas, splitting, moong,
chana whole moong total item proper
cooling extend the self line storage
temperature, 5000 MT cold 2°C stored temper
ature 2500 MT chilli storage (30TR)

The Internship Andhra Pradesh in Eddla
Siva Reddy cold storage in location of Kolakunta
Red chilli and total and chana whole moons
split moongs, Red grams, Black grams also in
storage.

Acknowledgement high of buildings for
chilly cooling in room storage.



ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	First day going to Edula Siva Reddy cold storage (Koilakuntla)	cold storage drawn through product cooling.	
Day - 2	stock saving storage in Edula Siva Reddy cold storage	product started in 3 years or 4 years.	
Day - 3	5th floor in fans and lights efficiency	3x5 = 15 fans	
Day - 4	Deficient stock for dal and chana whole moong, chillies	stock is daily stock product cooling.	
Day - 5	storage temperature	+10°C Temperature	
Day - 6	cold storage packins left price in indore	Asyclitys loading to left in cold storage.	

For: EDULA SIVA REDDY COLD STORAGE

C. Harish M
Proprietor

WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

- * However if cold storage facilities are used, the product may be stored for 4-3 years.
- * cold storage loading lifts indoor with in 5 floors.
- * cold storage - Down throw product cooler
- * $3 \times 5 = 15$ fans each in Rooms.
- * Sin were fine for fans for high E.F
- * Tube test pressure to ensure leak product cool.
- * Down ward airflow pattern for equal distribution fair.
- * chick peas, split mung, moongdal, split gram gram mung total item proper cooling extend the shelf life.
- * storage temperature, 500ml cold.
- * 8°C stored temperature, 2500 MT chilli storage (30TR)
- * cold storage in a tunnel.
- soyghum,

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Water supply room cooling mission, important, important 4 st	Water, Discharge pressure	
Day - 2	section pressure. 14.2	Ammoniya total 160 kg.	
Day - 3	Important missions 4 stage	k pck = 10+015	
Day - 4	oil pressure 16.4	A.B supply Amoniya	
Day - 5	powers of enreaching clives to 16.4	Ammoniya to pressure into the cooling cloma and other item	
Day - 6	Ammoniya (sinu test) toge raining supply stacking	houses days 7tho (24 hours).	

For: EDULA SIVA REDDY GOLD STORGE

C. Harinath
Proprietor

WEEKLY REPORT

WEEK - 2 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

'Controlled atmosphere Storages'

- these are for specific purpose to store some commodities that require special cooling condition.
- these stores are fitted with technological that alters atmospheric condition of storage area like gaseous content humidity in addition with temperature control.
- the items stored are apple, pears, cherries.
- Another classification of cold store is multi storage and one-story cold storage.
- Multi story cold storage is the fashion adopted at early refrigeration ware house when labour cost was not a major concern.
- the building include 3-12 floor and height of each story is kept as 7-9 feet as most of multi-story in ware house.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Ensiling Jvel 70° (GTRP)	Ammonia chana cooling liqued.	
Day - 2	Dispersant liqued	total 5 Room	
Day - 3	change cooling J.c.e the liqued air door	total +10°C temperature cooling	
Day - 4	storage temperature	+10°C temperature use.	
Day - 5	cold storage packing.	use full loading lift	
Day - 6	The storage is used daily activity is used indore	cold storage used.	

WEEKLY REPORT

WEEK - 3 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Fundamental of cold storage design

The design and planning are the crucial step while set up of any system. cold storage demands lot of work prior to the implementation phase as we have to take into account all the problems which can be supposed to face. we have to think in view of environment, economic and maintenance as per before the actual working condition.

All the cost associated with initial setup, working and maintenance and depreciation have to be studied.

- Process layout :- it is the phase where we plan the floor layout for efficient working and handling.
- planning drawing and application :- this phase come only after the process layout.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	storage (Biryani)	total biryani	
Day -2	explanance of cold storage in fans.	3x5=15	
Day -3	change that cooling Reate	storage all cooling	
Day -4	Gas liqued.	storage are almost cooling	
Day -5	chana and chillis change	room cooling	
Day -6	stocks	supply.	

For: EDULA SIVA REDDY COLD STORGE

E. Hare nithu M
Proprietor

WEEKLY REPORT

WEEK - 4 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Design consideration regarding
Construtional details of cold storage:-

Apart from the above-mentioned consideration there are some other point that are the requirement of any project

- Contractual formalities.
- building specifications.
- Refrigeration system specifications.
- Insulation.
- Electrical requirement.
- Mechanical requirement.

In cold store rooms the inner temperature is maintained at much lower temperature than the outer surrounding temperature.

It is the property of heat to travel from higher temperature to lower.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Market purchased lights, speed to motors	Motor work	
Day - 2	(LPBy Pass) compass passing	100° Ruble 3 1/2 level Ril 6° DDr	
Day - 3	Temperature in cold storage	15.1 and 16.2	
Day - 4	storage cooling	temperature cooled to every day	
Day - 5	chana change	Room cooling	
Day - 6	storage cooling	total all rooms supply to cooling in temperature	

For: EDULA SIVA REDDY COLD STORAGE

G. Hare with the day

Proprietor

Objective of the Activity Done:

Detailed Report:

Economic consideration
Cost is the first thing while considering any aspect, hence amount of the insulation and cost of the insulating material.

- conductivity
- Heat gain
- solar radiation.

S. No	MATERIAL	R-VALUE (1-inch thick)
1.	Glass wool, mineral	3.50
2.	cellulose	3.50
3.	wood shaving or sawdust	2.22
4.	plain expanded extruded polystyrene	5
5.	Expanded rubber	4.55
6.	Expanded rubber polystyrene modelled bead	3.51
7.	Aged expanded polystyrene	6.25
8.	Glass fibre	4
9.	polyisocyanurate	8
10.	wood or cork fibre board	2.5

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Unit stocks to in cold storage	total item	
Day - 2	check to spring	(program) any items cooling.	For: EDULA SIVA REDDY COLD STORAGE G. Herath Proprietor
Day - 3	notes process out	Exchange stock	
Day - 4	split green gram moong dal and toor dal, chana	total items exchange the diet list	
Day - 5	present study develops cold chains,	cooling application	
Day - 6	Feet cellulose led	water cools in operation room.	

WEEKLY REPORT

WEEK - 6 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Heat load in cold storage.

- In cold storage optimum temperature is required to be maintained in order to get the refrigerated product.
- for this continuous heat removal process is needed which extract the heat from the cooling space.
- Before we install the refrigeration unit it is required to know the desired refrigeration capacity of given space at given temperature.
- Conduction heat :- Heat conducted through walls, roof and floor of the building.
- Field heat :- amount of heat that is needed to be removed from the product to cool it and store at a specific temperature. heat removal is only needed for maintain the storage temperature.

ACTIVITY LOG FOR THE SEVEN WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	multi commodity items	Grains cut wood	
Day - 2	instant lot no. wise current stock	customer wise stock Detail	
Day - 3	location	specific location, Altitude elevation above sea level	
Day - 4	Environment.	water, atmosphere corrosive and scaling possibility.	
Day - 5	Factors	ease of transportation cost storage availability.	
Day - 6	labour	availability skill, and money.	

For: EDULA SIVA REDDY COLD STORAGE

G. Hanumanth
Proprietor

WEEKLY REPORT

WEEK - 7 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report: "Heat transfer through walls building" for steady flow condition the equation for heat load calculation is

$$Q = U \times A \times (T_o - T_i)$$

where,

U = overall heat transfer coefficient
(kcal/m²·hr·°C)

A = Surface area through which heat transfer taking place (m²)

T_o = Temperature of outside air

T_i = Temperature of inside air

The overall heat transfer coefficient is given by

$$U = 1 / \left(\frac{1}{h_i} + \frac{x_1}{k_1} + \frac{x_2}{k_2} + \frac{1}{h_o} \right)$$

h_i = heat transfer coefficient on inner wall

h_o = heat transfer coefficient on outer wall.

ACTIVITY LOG FOR THE EIGHTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Column, Beam Joint	Size, depth, position	
Day - 2	wall, Roof, Floor Insulation	Type of the insulation thickness, resistivity.	
Day - 3	surrounding condition.	out side Adjacent space.	For: EDULA SIVA REDDY COLD STORAGE Herewith Proprietor
Day - 4	Access	Floors and stair ways, and lifts.	CI
Day - 5	Access to door	Location, type Size and use space access to environment	
Day - 6	type of construction	location and movement of the joint.	

WEEKLY REPORT

WEEK - 8 (From Dt..... to Dt: Dt.....)

Objective of the Activity Done:

Detailed Report:

Thermodynamic and thermophysical
cal property :-

- Suction pressure :- The suction pressure is required to be higher than the atmospheric pressure to avoid the leakage of the atmospheric gases into the refrigerants so that.
- Discharge pressure :- at a required condenser temperature the pressure should be low to reduce the compress.
- Pressure ratio :- as low as possible to reduce the volumetric lossess.
- Latent heat of vaporisation :- of should be as possible to reduce the requirement of mass flow.
- Liquid specific cooling :- Lsc should be small as to lower the amount.

ACTIVITY LOG FOR THE NINTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Controlled atmosphere	specific purpose to store some commodities.	
Day - 2	atmosphere condition	humidity in addition with controlled.	
Day - 3	cost and development of mechanised equipment	store palletised and nonpalletised ware house	For: EDULA SIVA REDDY COLD STORAGE Proprietor
Day - 4	cold storage	wire house products available at lower cost	
Day - 5	mini units or walk-in stores	these are for distribution purpose	
Day - 6	polystyrene	0.24	

Objective of the Activity Done:

Detailed Report:

Global warming Potential (GWP) :-

Gwp is the measure of amount of heat trapped by a gas in the atmosphere in a specific time duration relative to the carbon dioxide.

carbon dioxide (R₇₄₄)

and R₃₂. But these alternatives are either mildly or highly plausible expect carbon dioxide.

total equivalent warming index:-

direct - and indirect - emission contribution to global warming potential combinedly represented this index.

Toxicity :- If we talk about ideal refrigerant, the toxicity, the toxicity, should be zero. But all the fluids except air are more or less toxic depending upon their concentration.

ACTIVITY LOG FOR THE TENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	Black oil cooling	Room in all stores.	
Day -2	The cooling air speed across the rooms	cooling	
Day -3	The compressor	compressor	
Day -4	almost all the power in cold storage room	only device	
Day -5	heat dissipation used	blowers cooling	
Day -6	water at the night to list	3-8 and vacuums.	

For: EDULA SIVA REDDY COLD STORAGE

Proprietor

Objective of the Activity Done:

Detailed Report:

Cold Storage in flammability:-

Flammability :- The refrigerant should be flammable and non-explosive.

But some refrigerant is used even after their explosive nature because of other required properties and usage hence special care should be taken while handling such refrigerant.

Chemical stability :- The refrigerants are required to be chemically stable while their use in the system because property of the refrigerant is very important factor deciding the system performance.

Compatibility :- The refrigerant selected should not react with the material system.

ACTIVITY LOG FOR THE ELEVENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	However is cold storage	Facilities	
Day -2	product supply	stocks.	
Day -3	cold storage	Down throw product cooler	
Day -4	pressure insurance	product Down throw	
Day -5	80C stored temperature	2500 mt chilly store	
Day -6	chick peas, split mums, moonschal green dal	in kept to cold storage.	

For: EDULA SIVA REDDY COLD STORAGE

Proprietor

WEEKLY REPORT

WEEK - 11 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Survey And Data collection

In every project initial phase is survey and data collection as information of any system is must to know prior start working upon any system. After thorough inspection and gathered information we study and conclude whether there is any recommendation for change or substitution of given set up further work is also done to improve the efficiency and cost cutting is also done by some changes.

In my project i have selected farouk bad cold storage as a base from which in sight of cold storage.

- * cold storage building details.
- * cold storage system details.

ACTIVITY LOG FOR THE TWELVETH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	Blowers & The cooling air is speed across the room	Room are all cooling.	
Day -2	The compressor consumes almost all the power in a cold room.	compress. only drive	
Day -3	Heat dissipation of water at night	3.8 and * various lines with the evaporation.	
Day -4	possible for data centre cooling	Overall COP can reach 9.4 for room temp evap.	
Day -5	temperature difference $+10^{\circ}\text{C}$	cooling system.	
Day -6	liquid 45°C run	oil ground and one in the shoot.	

For: EDULA SIVA REDDY COLD STORAGE

C. Her with
Proprietor

WEEKLY REPORT

WEEK - 12 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Importance of maintaining relative humidity in cold storage:-

Relative humidity is the term used to measure the moisture content in atmosphere at a particular temperature relative to moisture at saturated condition at same temperature by the same amount of the environment. It is necessary to maintain in the cold space as to avoid the water loss from the food and to retain the freshness and quality of the food.

When we gradually decrease the temperature to the space at a particular pressure, air gets cool and after some point air will reach to temperature where the moisture content or water vapour present in the air will start condensing or precipitation.

ACTIVITY LOG FOR THE THIRTEENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	A cold storage facility works on a perfect refrigeration system which helps.	maintain	
Day -2	cell to use pad cooling which is cooled at night by cool-based cooling process	(CWCT)	
Day -3	testoxic too examine climbs as night by high as 3-4 times	stock 3-4 years.	
Day -4	this item, when needed can be taken from the cold storage.	store item stock	
Day -5	cold storage issued to pressure	storage item stock	
Day -6	Business park	Business Repo st.	

For: EDULA SIVA REDDY COLD STORAGE

G. Harish N. M.
Proprietor

WEEKLY REPORT

WEEK - 13 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report: 13th week report in cold storage.

The 13th week internship project data collection information connected to the in Andhra Pradesh state storage location of Kailakuntla (M) Soudardinne (V) it edula Sira Reddy cold storage so many items coming to this storage

then Red chilis and whole mang orange acknowledge list as building for this chili along this room.

In cold storage dry chilis are shipped to loading lannies truck going to the Kurnool market in Andhra Pradesh dry chilis goes on the Guntur market.

- Hindupuram (M)
- Kurnool (M)
- Guntur

where shipped it this stock.

ACTIVITY LOG FOR THE FOURTEENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	storage (Bragar) that on explain	total (Bragar) of 15 each rooms.5	
Day -2	white stock, chick pease, split moong moongdal, Gireetha Garam	total item / commodities proper cooling	For: EDULA SIVA REDDY COLD STORAGE C. Her... Proprietor
Day -3	temperature at the storage	U.1 cooling in every room	
Day -4	Motor pressure and high speed (Lp by passed)	$\rightarrow 100^\circ$ Double $\rightarrow 3\frac{1}{2}$ level $\rightarrow 1^\circ - 16$ TDR	
Day -5	chara change (chima)	Room cooling	
Day -6	Gas liqued chang then about to operation to cold storage	storage is always so very cooling.	

Objective of the Activity Done:

Detailed Report:

Relative need of air circulation
in the cold storage

The air inside the cold room gets heated after receiving heat from the product and loads transmitted through the buildings. Such condition causes the requirement of air circulation in the cold space.

This can be either forced air circulation or natural convection air circulation.

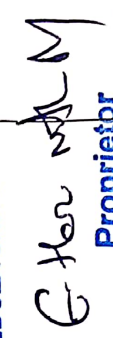
In forced air circulation fan or blower is used to use the air in

flow from the cooling space in the cooling coils.

Rapid circulation by blowers or fans causes moisture loss from the product.

Hence proper balance between the cooling surface and the rate of air flow.

ACTIVITY LOG FOR THE FIFTEENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Transport - Activity.	Edula Siva reddy avilany transport - activities of level.	
Day - 2	Building inches.	length 120° Breadth 20	For: EDULA SIVA REDDY COLD STORAGE  Proprietor
Day - 3	workers.	one operator one packing place product	
Day - 4	Deposit meant	Deposit meant of A/c operator name was Gopalamma.	
Day - 5	cold storage stock lifting.	cold storage stock lifting the 5th floor.	
Day - 6	Technological developments.	Developments. of area place edula siva reddy cold storage.	

WEEKLY REPORT

WEEK - 15 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Classification of cold storage:-
cold storage requirement of the world in order to provide food and other medical and industrial requirements. cold store is a room in a building that provide suitable condition to store the commodities - by maintaining altered atmospheric condition which is demanded by classification of cold storage.

Based on their thermal incompatibility:-
product being stored together should not show thermal incompatibility hence they are categorised according to their common environmental condition requirement.

Small cold storages:- these are designed mainly for precooling facility of vegetables and fruits.

CHAPTER 5: OUTCOMES DESCRIPTION

Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)

Environmental Cases

As part of research associated with education for sustainable ability at Rm university sent on invitation to environment professional seeking information about their back grounds & work.

Benefits of a cold storage :-

The main advantages of using cold storage are :-

- Food product and crops, product can be stored when their supply is plentiful and can be used during the period of short supply.
- Transportation of food stuff from one place to another place is possible.
- Due to reduce of food spoiled by the uses of cold storages great saving in cost can be achieved.

Cold Storage practices

In a cold store the following practices should be adopted.

- temperature control.
- Relative humidity control.
- condensation of water vapour.
- condensation of sanitation.
- Air movement.
- stacking and material handling.

Classification based on Activities:-

Based on the activities, cold storage can be classified as,

- multipurpose cold house

Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)

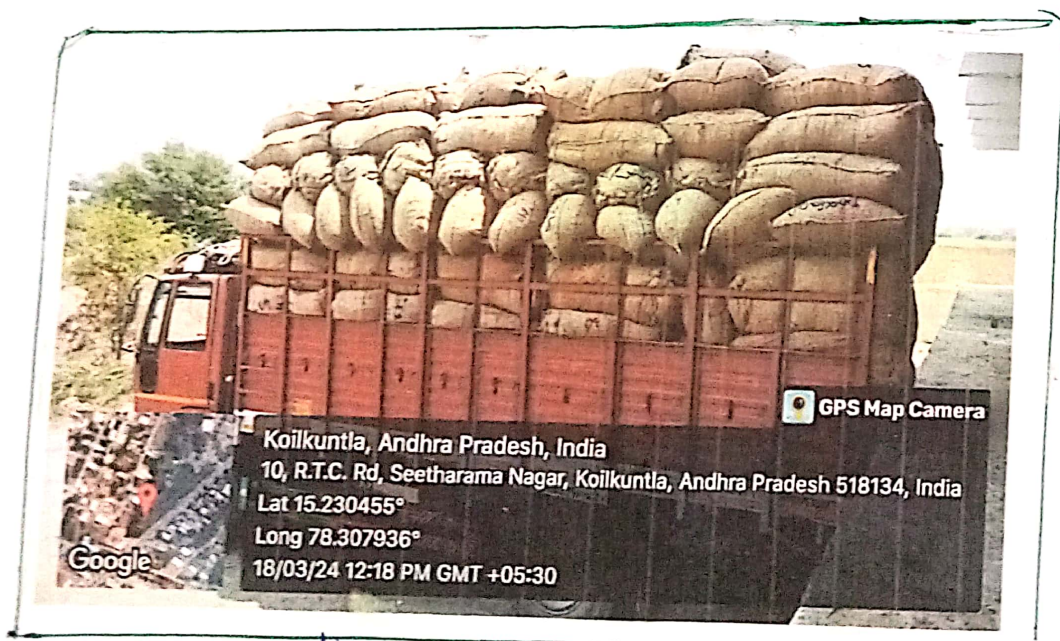
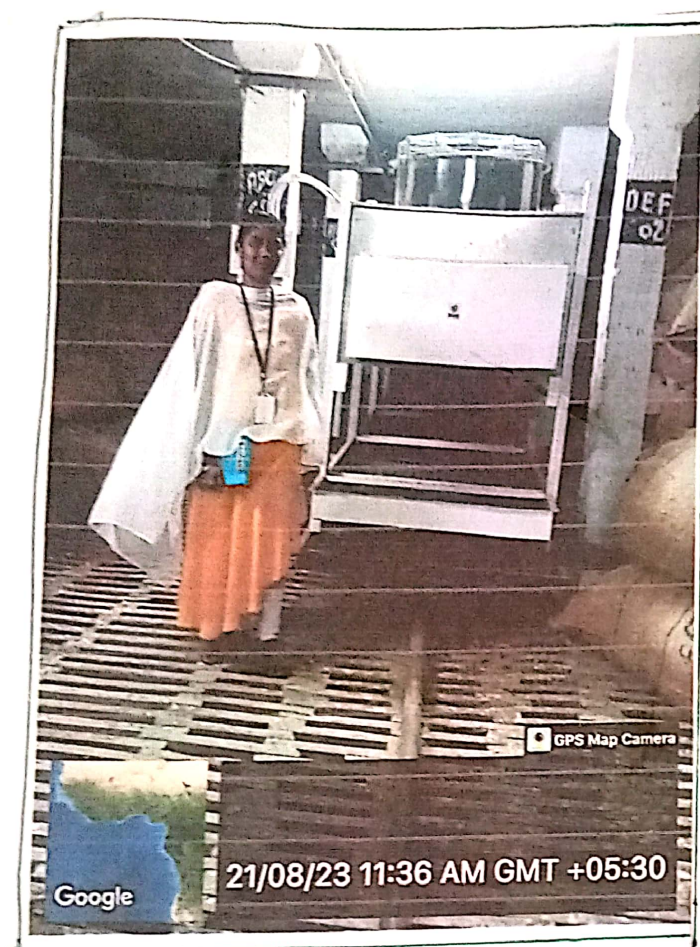
TECHNOLOGICAL SKILLS:-

- Develop and maintain local networks in way that optimize performance.
- provide orientation and guidance to users on how to operate new soft ware and computer equipment.
- check computer hardware (HDD, mouse, key boards) to ensure functionality.
- install and configure appropriate soft ware and functions according to specifications.

Information technology (IT) :-

is the uses of Computer to create, process, store retrieve, and exchange all kinds of data and information,

- (ICT) information & communication system technology
- Technology skills in feature useful in communication development acquired the student before jobs in technological skills.



Red chillies exported to Hindupuram market

Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.

The Managerial Skills

- Red chillies cold storage private limited supporting and edula Siva Reddy auxiliary transport, activities, activities of travel agencies.

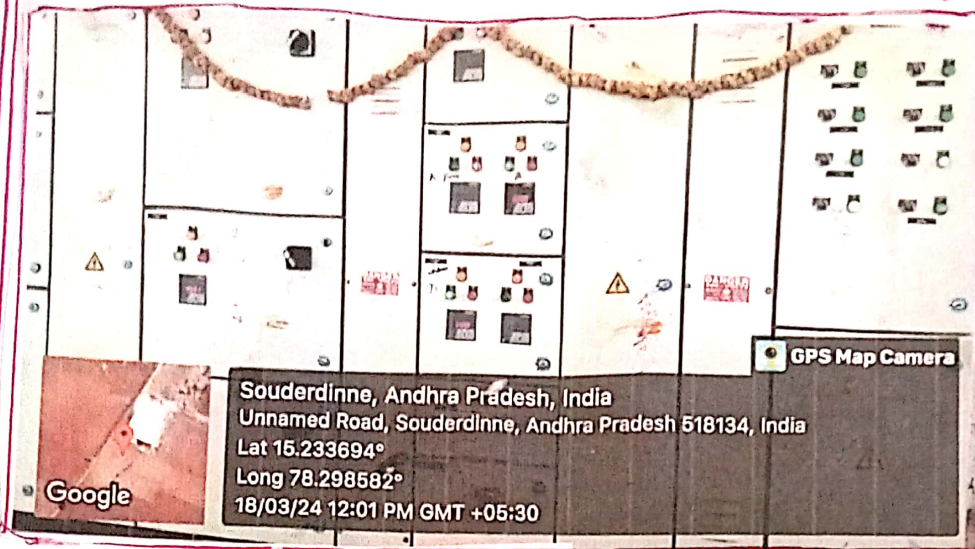
storage in that 3 or 5 years stock
300 killose baling 120 ropes in stock at edula Siva Reddy cold storage.

- Building = 180 inches
Length = 120
Breadth = 120

- workers (2) and one operator one packing place fourse number in that edula Siva Reddy cold storage.

ex:- farmers cold storage stock are useful 3 or 4 years stock in chillies one person Ramula Nageswarao 300 and 500 stacks. stock.

- Department A/c operator name was Sopalaradma.



I. Nageswar Reddy Sir Department
 of History Sir Introducing
 cold storage

controlled atmosphere
 stores.

Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.,)

market potential

Cold storage are essential for extending the shelf life. period of marketing, avoiding glut, reducing transport bottlenecks during peak period of producing and maintenance of allativity of produce.

the development of cold storage industry has therefore an important role to play in reducing the wastages of the perishable commodities and thus providing remunerative price to the growers.

Basic and Presumptions:-

The project is based on an average 90% percent capacity utilisation. three shifts working per day.

and 300 working days per annum.

for economic viability an ICE block manufacturing unit has also been included in the project.

CASCADE REFRIGERATION

The traditional single-stage compression refrigeration system (SCRS) and single-stage absorption refrigeration system are two basic form of the refrigeration technology.

CRS has a wide range of applications, for example, in the field of hypothermal medicine, cryopreservation for instruments.

In vapour compression and vapour compression, cascading, low temperature cycle, is for food items, which require low temperature and high temperature cycle, for food items.

After modification, in the system design of the cold storage, the effect of both types of cascading i.e., CACRS and CCRS are observed by thermal analysis.

Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

Edula Siva Reddy cold storage abilities we are my class friends divided into 2 Groups.

(1). Nageswareddy 6 sir group (2) S. Raja sir group.

(A). Group we are all discussion for about the cold storage.

my Group student then:- K. Pharani, K. Sivanaik, K. Srinivasula Naik, A. Nagalakshmi, Husoni, D. Sunil. we are all discussion to cold storage.

my name kalayagari Pharani iam writ to long term internship project work about the edula siva Reddy cold storage.

we are all participation of team and individual going to cold storage.

then A/c Department operation was name Gopalavarma he was explained to cold storage and guidance of more information.

meand my friends consult leasing about cold storage.

other wise many information (it) write on the project work record.

In cold storage room 11°C temperature all stocks cooling in cold storage stock.

we are viewed to many stocks lift to upper floor and 5th floor stocks are also lift in Ground floor room.

so many stocks left in to the loading to truck, so many item export to some, some markets.

cold storage stock lifting in door loading the 5th floor kept to chillies, torval, chara, whole mung chick peas, split mung, mungdal temperature 11°C storage temperature ammonia used to total brayer $3\text{X}15$ and 16.0 cooling cause pad water not spoiled many product this cold storage

Describe the technological developments you have observed and relevant to the subject area of training (focus on digital technologies relevant to your job role)

Technological developments may be observed and recent :-

Technological developments area place edula siva Reddy cold storage.

We observed many activities services.

Awareness of some items, kept in cold storage. there at the cold storage importance of crops. coming to edula siva Reddy cold were house.

We view to many, crops impotes.

Example :- moongdal, Red grams, Dry chillied. Black grams, whole moongdal e.t.c.

chilling injury :- chilling injury is caused by food temperature and generally affects chillies and crops causing improper on pining discolouration, texture change etc.

with a higher recommendation storage temperature systems of this disorder are decayed.

The chilli injury is dependent on storage temperature and storage time. chilling injury is particularly troublesome because symptoms are not visible immediately on the product. Products that 100 heater in the store might have develop symptoms during transportation or marketing.

- water melon - 4°C
- potatoes - $3-3^{\circ}\text{C}$
- dillies - 7°C

Thermal insulation of cold storage:-

Since heat flows from high temperature areas to lower temperature regions. there is a continuous flow of heat from the surroundings to the refrigerated or conditioned space, there by increasing the temperature of condition space (heat gain)

Any material that retards or offers resistance to the flow of heat through it is called an insulator.

Student Self Evaluation of the Short-Term Internship

Student Name:	k. Dharoni	Registration No:	2110041010
Term of Internship:	From: 21/01/2024	To:	30-4-2024
Date of Evaluation:	30-4-2024		
Organization Name & Address:	Edula Siva Reddy cold storage Gopalvarma.		

Please rate your performance in the following areas:

Rating Scale: Letter grade of CGPA calculation to be provided

1	Oral communication	1	2	3	4 ✓	5
2	Written communication	1	2	3 ✓	4	5
3	Proactiveness	1	2	3	4	5 ✓
4	Interaction ability with community	1	2	3	4 ✓	5
5	Positive Attitude	1	2	3	4 ✓	5
6	Self-confidence	1	2	3	4	5 ✓
7	Ability to learn	1	2	3	4	5 ✓
8	Work Plan and organization	1	2	3	4 ✓	5
9	Professionalism	1	2	3	4	5 ✓
10	Creativity	1	2	3	4 ✓	5
11	Quality of work done	1	2	3	4	5 ✓
12	Time Management	1	2	3	4 ✓	5 ✓
13	Understanding the Community	1	2	3	4	5 ✓
14	Achievement of Desired Outcomes	1	2	3	4 ✓	5
15	OVERALL PERFORMANCE	1	2	3	4 ✓	5

Date: 30-04-2024

EDULA SIVA REDDY COLD STORAGE
k. Dharoni
Signature of the Student

Evaluation by the Supervisor of the Intern Organization

Student Name: K. Dharaani Registration No: 2116041010

Term of Internship: From: 22-01-2024 To: 30-4-2024

Date of Evaluation: 30-4-2024

Organization Name & Address: Edula Siva Reddy cold storage SNo: 110
Sowdharadinne (vi) Kolakentla (M)

Name & Address of the Supervisor
 with Mobile Number: Gopala Vasima
9490402714

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4 /	5
2	Written communication	1	2	3	4	5 /
3	Proactiveness	1	2	3	4 /	5
4	Interaction ability with community	1	2	3	4 /	5.
5	Positive Attitude	1	2	3	4	5 /
6	Self-confidence	1	2	3	4 /	5
7	Ability to learn	1	2	3	4	5 /
8	Work Plan and organization	1	2	3	4 /	5
9	Professionalism	1	2	3	4	5 /
10	Creativity	1	2	3	4 /	5
11	Quality of work done	1	2	3	4	5 /
12	Time Management	1	2	3	4 /	5
13	Understanding the Community	1	2	3	4 /	5
14	Achievement of Desired Outcomes	1	2	3	4	5 /
15	OVERALL PERFORMANCE	1	2	3	4	5 /

Date: 30-04-2024

For: **EDULA SIVA REDDY COLD STORGE**

Signature of the Supervisor

G. Harish
Proprietor

Vapour Barrier

Properties of Insulation materials

MATERIAL	Density (kg/m ³)	Thermal conductance	Temperature (°C)
Polyurethane	30-32	0.015	110-200
Thermocel	15-30 kg	0.025 to 0.028	75-200
Cork	120-160	0.036	90-150
phenotherm	30-34	0.016	130-196

Vapour Barriers:-

The water vapour in air tends to move from warmer region to colder region due to vapour pressure difference. As the temperature difference between the surrounding and conditioned area.

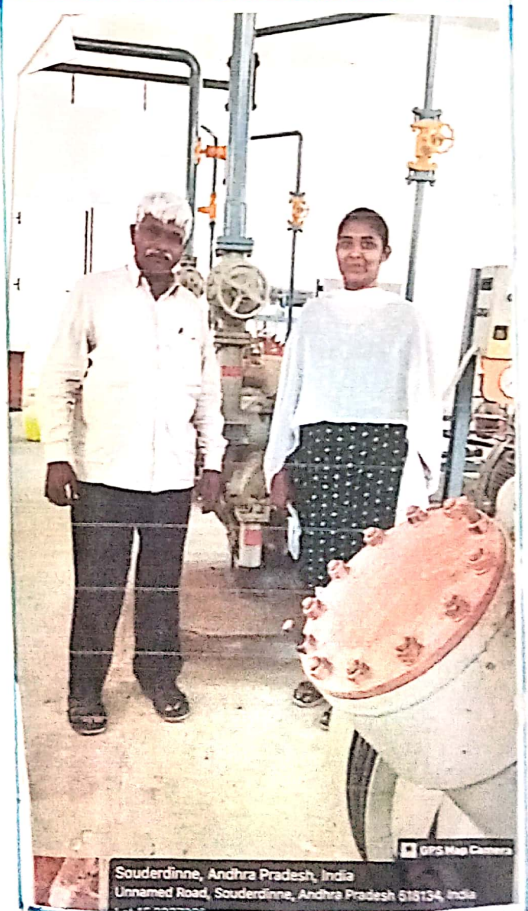
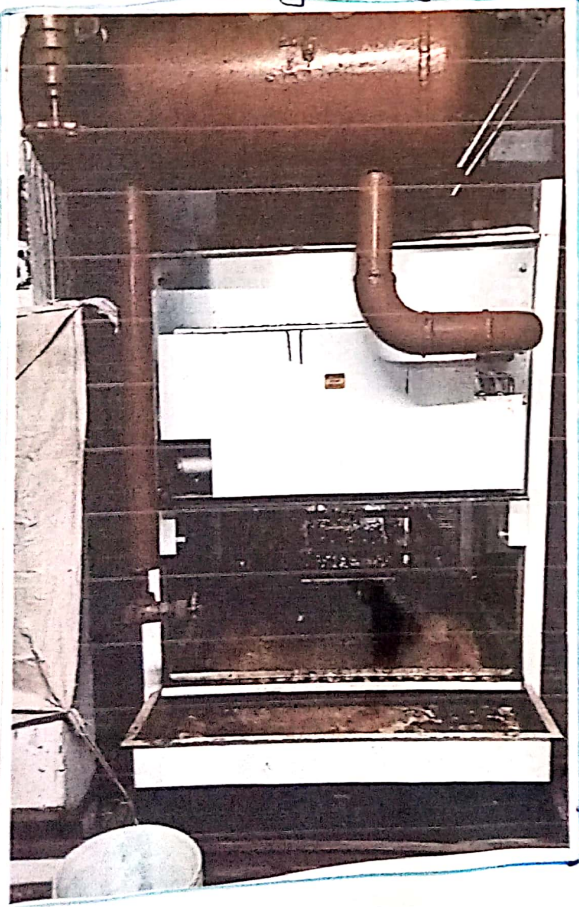
(cold storage, refrigerated area) increase, the vapour pressure different also increase,

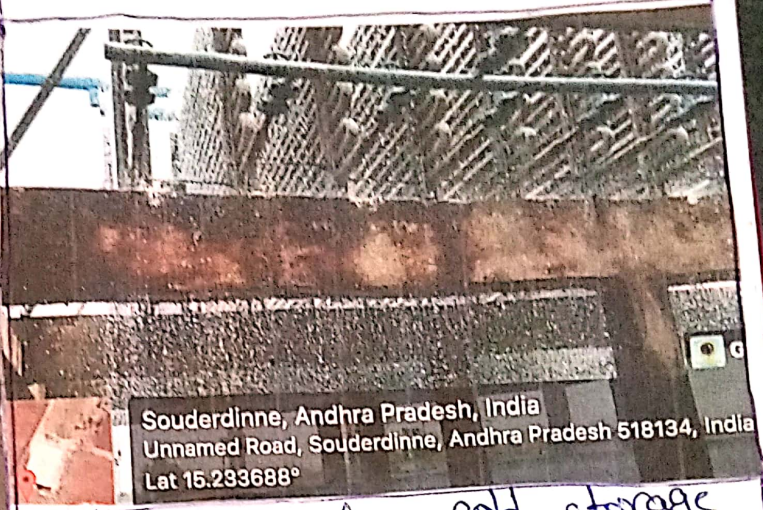
the insulation materials can be porous to some extent, due to which moisture from outside can migrate into cold storage area.

PHOTOS & VIDEO LINKS

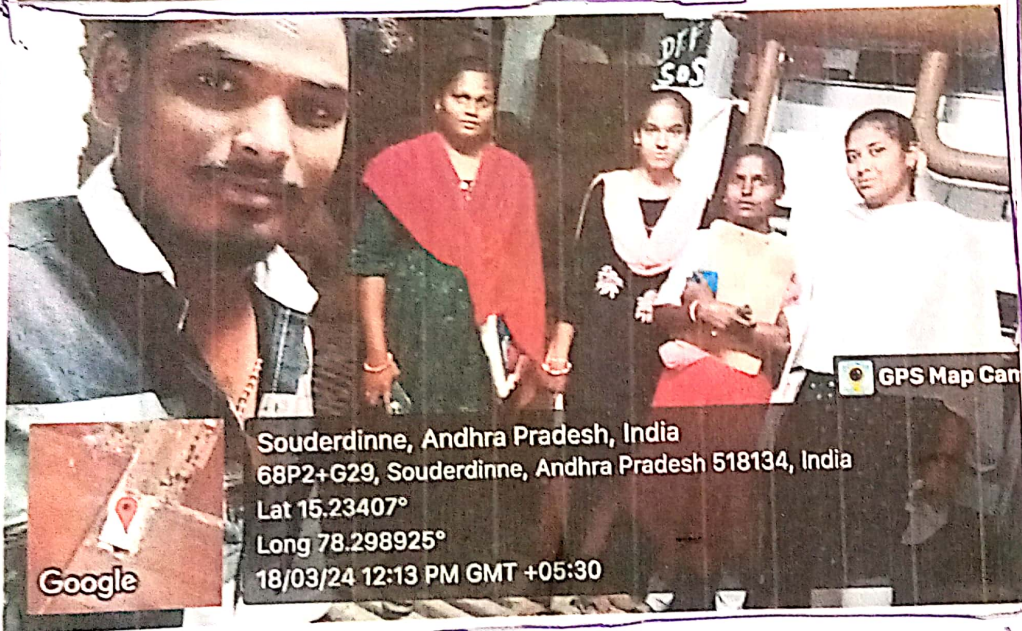


cold storage insight





cooling tower for cold storage



Air movement:- In cold storage, it is very important to provide good air circulation between the boxes and around the product.

Adequate air distribution system is required to maintain a uniform temperature, throughout the cold storage, ventilation should be kept at minimum in order to maintain optimum temperature and relative humidity.

stacking and material handling:-

Stacking is one of the important factors in all types of storage and transport. It is particularly affected by the packing of chilli products whether it is by carton, tray, wooden, net bag etc.

In cold storage according to product the stacking density of products and chana, moongdal in storage 50 kg and 100 kg for this season stacking must be proper and stable to avoid damage handling storage and transportations.

RESULT AND DISCUSSION :-

Firstly, the survey and data collection were done and building details and refrigeration system details were obtained. After this survey energy consumption of the cold storage, refrigeration capacity, of the system and load calculations were done using Equest software and calculation

The cooling load was coming out to be 150 tons. In order to reduce the cooling load and energy consumption.

Cascaded refrigeration system is also used to increase the COP. In this project we have done analysis on two types of cascading i.e. VA-VC and VC-VC.

Sensible heat loss through walls.

	with green walls (mm)	without green walls (mm)
South	21.87	43.75
East w	13.07	28.30
West	22.45	30.56

EVALUATION

Page No.



INTERNAL ASSESSMENT STATEMENT

Name Of the Student: k. Charani
Programme of Study: Longterm Internship project
Year of Study: 2021-2024
Group: B.A (H.E.P)
Register No/H.T. No: 2111004 1010
Name of the College: S.V.B Govt. Degree college kailakuntla.
University: Rayala Seema criversity kurnool.

Sl.No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Activity Log	10	
2.	Internship Evaluation	30	
3.	Oral Presentation	10	
	GRAND TOTAL	50	

Date: 30/4/2024

For: EDULA SIVA REDDY, Guide
Signature of the Faculty Guide

E. H. R. M.
Proprietor

EXTERNAL ASSESSMENT STATEMENT

Name Of the Student: K. Dharani
Programme of Study: Long term internship project
Year of Study: 2021-2024
Group: B.A (H.E.P)
Register No/H.T. No: 2110041010
Name of the College: S.V.B Govt. Degree college Koilkuntla
University: Rayalaseema university kurnool.

Sl.No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Internship Evaluation	80	
2.	For the grading giving by the Supervisor of the Intern Organization	20	
3.	Viva-Voce	50	
	TOTAL	150	
GRAND TOTAL (EXT. 50 M + INT. 100M)		200	

Signature of the Faculty Guide 

Signature of the Internal Expert 


Signature of the External Expert


Signature of the Principal with Seal

PRINCIPAL
S.V.B. GOVT. DEGREE CO
KOILKUNTLA, NANDYAL (P.S.)