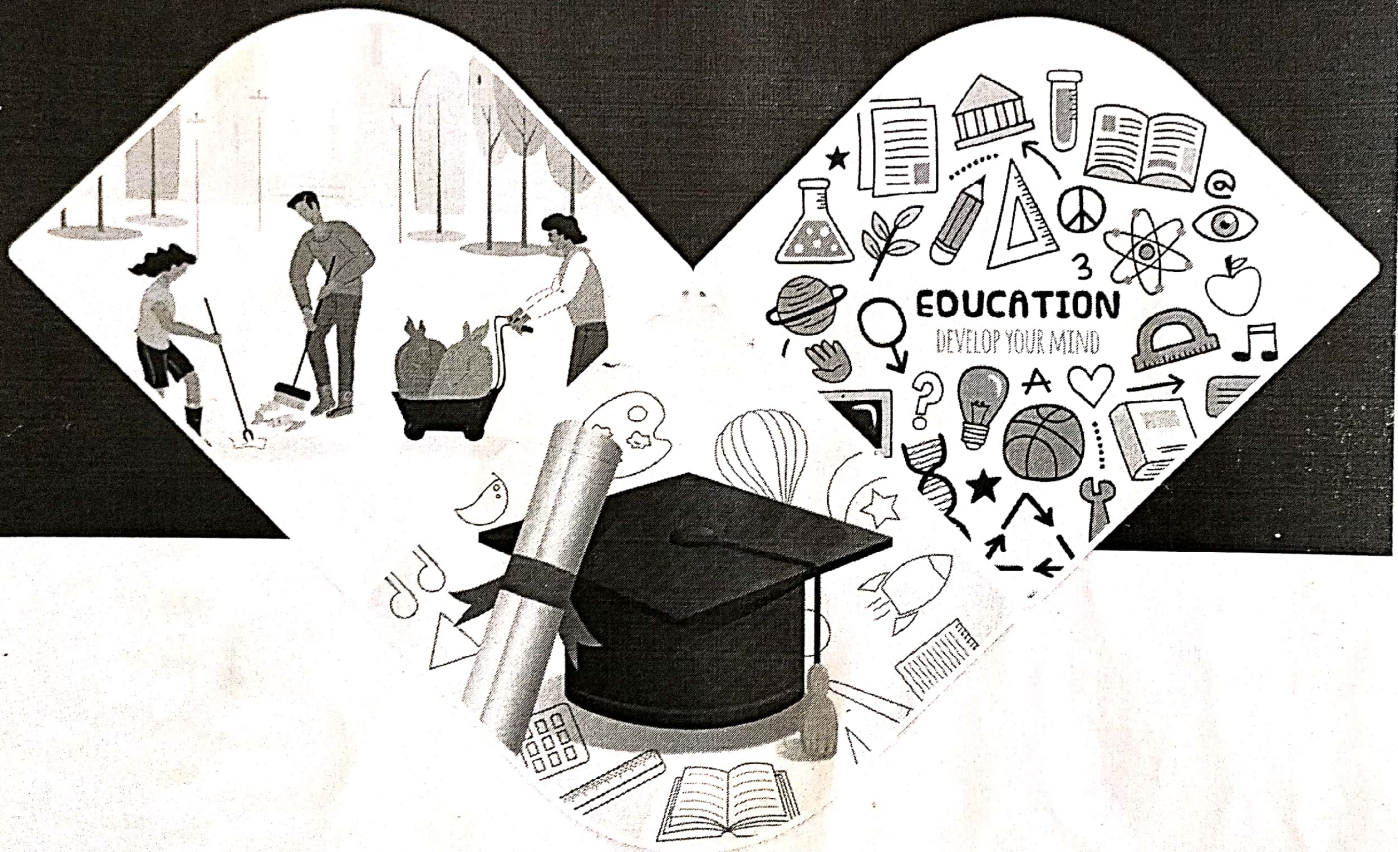
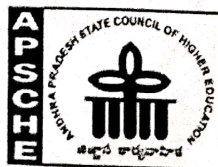


Model Program Book



SEMESTER INTERNSHIP

Designed & Developed by



**ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION**

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)



SEMESTER INTERSHIP PROJECT

Name of the student:- Akula. Nagalakshmi

Name of the college :- SVB Govt Degree college (Koilakuntla)

Registration number :- 2110041009.

Program :- 6th semester Long term

Name and Address of Internship organisation

:- EDULA SIVA REDDY
COLD STORAGE

S.NO : 110 Soudara Dinhe (vi) Koilakuntla (MD)
is financed by

KARUR VYSYA BANK: NANDYAL

Stock Hypothecation to Karur Vysya Bank

With the Assistance from
National Horticulture Board (GOI [NHB])

PROGRAM BOOK FOR
SEMESTER INTERNSHIP

Name of the Student: *A. Naga Lakshmi*

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

Registration Number: *OAM202101428859*

Period of Internship: From: *29-01-2024* To: *30.04.2024*

Name & Address of the Intern Organization: *Edula Siva Reddy Cold Storage koilkuntla {M} NDL {Dist} Sowderdennu*

Royala Seema **University**
YEAR

An Internship Report on
Enhancing cold storage ^{efficiency and} sustainability in
Agriculture (Long term Internship)
(Title of the Semester Internship Program)

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

Under the Faculty Guideship of
I. Nageswari Reddy
(Name of the Faculty Guide)

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

Submitted by:
Akula Nagalakshmi
(Name of the Student)

Reg.No: 21110041001

Department of History
Sri Vasavi Bammidala Government Degree College
Koilakuntla
(Name of the College)

Instructions to Students

Please read the detailed Guidelines on Internship hosted on the website of AP State Council of Higher Education <https://apsche.ap.gov.in>

1. It is mandatory for all the students to complete Semester internship either in V Semester or in VI Semester.
2. Every student should identify the organization for internship in consultation with the College Principal/the authorized person nominated by the Principal.
3. Report to the intern organization as per the schedule given by the College. You must make your own arrangements for transportation to reach the organization.
4. You should maintain punctuality in attending the internship. Daily attendance is compulsory.
5. You are expected to learn about the organization, policies, procedures, and processes by interacting with the people working in the organization and by consulting the supervisor attached to the interns.
6. While you are attending the internship, follow the rules and regulations of the intern organization.
7. While in the intern organization, always wear your College Identity Card.
8. If your College has a prescribed dress as uniform, wear the uniform daily, as you attend to your assigned duties.
9. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow interns. Post your daily activity done and/or any difficulty you encounter during the internship.
10. Identify five or more learning objectives in consultation with your Faculty Guide. These learning objectives can address:
 - a. Data and Information you are expected to collect about the organization and/or industry.
 - b. Job Skills you are expected to acquire.
 - c. Development of professional competencies that lead to future career success.
11. Practice professional communication skills with team members, co-interns, and your supervisor. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
12. Be aware of the communication culture in your work environment. Follow up and communicate regularly with your supervisor to provide updates on your progress with work assignments.

13. Never be hesitant to ask questions to make sure you fully understand what you need to do your work and to contribute to the organization.
14. Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.
15. At the end of internship, you shall be evaluated by your Supervisor of the intern organization.
16. There shall also be evaluation at the end of the internship by the Faculty Guide and the Principal.
17. Do not meddle with the instruments/equipment you work with.
18. Ensure that you do not cause any disturbance to the regular activities of the intern organization.
19. Be cordial but not too intimate with the employees of the intern organization and your fellow interns.
20. You should understand that during the internship programme, you are the ambassador of your College, and your behavior during the internship programme is of utmost importance.
21. If you are involved in any discipline related issues, you will be withdrawn from the internship programme immediately and disciplinary action shall be initiated.
22. Do not forget to keep up your family pride and prestige of your College.

-----<<@>-----

Student's Declaration

I, Akula Naga lakshmi a student of Internship
Program, Reg. No. 2110041001 of the Department of BA (SVB Govt Degree College)
College do hereby declare that I have completed the mandatory internship
from 22-01-2024 to 30-04-2024 in Edula Shivareddy (Name of
the intern organization) under the Faculty Guideship of
I. Nageswar reddy (Name of the Faculty Guide), Department of
History, S.V.B Govt Degree college koilakuntla
(Name of the College)

A. Naga lakshmi
(Signature and Date)

Official Certification

This is to certify that A. Nagalakshmi (Name of the student) Reg. No. 21110041001 has completed his/her Internship in Cold storage (Name of the Intern Organization) on Edula shivareddy 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 SVB Govt degree college (Name of the College).

This is accepted for evaluation.

Endorsements

(Signatory with Date and Seal)
For: **EDULA SIVA REDDY COLD STORAGE**
E. Har...
Proprietor

A. Reddy
Faculty Guide 30/11/21 Nageswar reddy

Head of the Department : History

Principal

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

Certificate from Intern Organization

This is to certify that A. Nagalakshmi (Name of the intern)
Reg. No. 21110041001 of SVB Govt Degree College (Name of the
College) underwent internship in Edula Shiva 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 with M
Proprietor

Authorized Signatory with Date and Seal

Acknowledgements

Long Term Internship Project Work-2024

Title:-

Eedula Siva Reddy Cold Storage

Local physical internship opportunity for maintainer support position of M/s Eedula Siva Reddy cold storage.

Cold storage Founded by Eedula Siva Reddy in Andhra Pradesh

This location of Koilkuntla Mandal Sowdesandine Village.

What are they under those Crops:-

- * Red chilli
- * Red Gram
- * Moong Dal
- * Chana
- * Whole moong.
- * Block grams are all the it is kept in cold storage.

Drag Acknowledgement high of building
for a chilly kept in storage room.

Typical chilly cold storage lifts of
6 floor.

The Ground Floor (1,2) + 5 Floors
{9 levels} in export produce.

The Red chilly stock loading to truck, chilly
stock storage left to chillies and other
product export of Andhra Pradesh.

Example:-

dry chillies local kurnool market &
in andhra Pradesh and dry chilly red market
of Guntur in Andhra Pradesh.

Quinta - INR

Market	District	Price
Hindupuram	Ananthapuram	13,000/-
kurnool	kurnool	14,000/-
Guntur	Guntur	13,500/-

Contents

ABSTRACT :-

CHAPTER :- 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 Fundametal 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 Re fri gerants.

CHAPTER 3 : LITERATURE REVIEW

CHAPTER 4 : SURVEY AND DATA COLLECTION

- 4.1 cold storage building details
- 4.2 Refrigeration system details
- 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

CHAPTER 8: RESULT AND DISCUSSION

CHAPTER 9: CONCLUSION AND FUTURE SCOPE Reference

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 live is food, therefore the quality and conservation of it is of great concern. cold storage warehouse 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 product.

So, humidity control as relative humidity to the store house should be kept at 80-90%. For most of the perishable produce cold storage is a place in buildings where product quality is maintained by providing temperature-controlled atmosphere.

They provide a way for us to store huge amount of food without it all going waste.

India is the second largest producer of Fruit { 88.98 million Tonnes } and Vegetables { 162.90 million Tonnes } and with this production India is contributed 11.36% and 14.04% Global Fruit and Vegetable production.

Description of Current Scenario of cold storage in India :-

Current Scenario of Storage in India	Largest Procedure
1. Created capacity in cold storage	31.2 Million Tonnes
2. Average Capacity per cold storage unit	5021 Tonnes
3. Total unit shut down	6227 1100
4. Operational capacity	26 Million Tonnes
5. Required capacity	61.13 million Tonnes
6. Current Gap	35 Million Tonnes

Through India is agriculture-based country cold storage are not only in scarcity but also unequally distributed.

about 75% of this facility is continued to only few states of India. The Table given below shows the total number of cold storage unit and their capacity in some major states.

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 there aren't 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. Turmeric 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 5000 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 2500 MT chamber is $140 \times 40 \times 57$ Ft. { L x W x H }

Depending on the customer's land labour the building is build storage.

Ammonia For chilly cold storage :-

Generally chilly cold storage are above 500 MT 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 colder sin were fins for fans for high tube test pressure to ensure leak protocol downward air flow platform for equal distribution of air chick peas, splitting, moong dal, channa, whole moong total item proper cooling extend the self line.

Storage Temperature, 5000 MT cold 8°C
Stored temperature 2,500 MT chilli storage {30TR}

My Internship Andhrapradesh in Edula Siva Reddy cold storage in location of Kolkuntla.

Red chilli and toordal and channa whole moong. Split moongs, Red grams, Black gram also in storage.

Acknowledgement high of buildings for chilly cooling in room storage.

Cooled condenser of the topping cycle was also examined.

The adoption of these solutions may help the the Cold Storage unit to reduce their net operating cost significantly.

The monthly electricity cost of conventional.

It gets reduced to 12-15 lakhs per month depending upon the heat source

for the VA-VC cascaded system.

VC-VC cascaded system. These reductions in monthly electricity bill also

led to a commensurate reduction in carbon emission

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 proven through product cooling	For: EDULA SIVA REDDY COLD STORAGE G. Hanu Naidu Proprietor
Day -2	Stock saving storage in Edula Siva Reddy cold storage	product stored in 3 years or 4 years	
Day -3	5 th Floor in Fans and light efficiency	3x5 = 15 fans	
Day -4	Detivent stock Toordal and chana whole moong, chillies	stock's is daily stock product cooling	
Day -5	Storage temperature	+ 10°C Temperature	
Day -6	cold storage packing left price in indore	Dry chillies loading to left in cold storage	

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 1-3 years.
- ⇒ cold storage loading lifts indoor with in 5th floor.
- ⇒ cold storage - down throw product cooler.
- ⇒ $3 \times 5 = 15$ Fans each any room.
- ⇒ Sin were fins for fans for high K.F.
- ⇒ Tube Test pressure to ensure leak product cool.
- ⇒ Down ward airflow pattern for equal distribution fair.
- ⇒ chick peas, split mung, moongdal, split green gram moong total item proper cooling extend the shelf life.
- ⇒ Storage temperature, 500MT cold.
- ⇒ 8°C started temperature, 2,500 MT chilli Storage {30TR}
- ⇒ cold storage in a tomato, sorghum

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 4 stage	Water Discharge pressure	
Day - 2	Section pressure 14.2	Ammonia total 160kg	
Day - 3	Important mission 4 stage	Kpck = 10 to 15	
Day - 4	oil pressure 16.4	A.B supply ammonia	
Day - 5	powers of enreaching lives to 16.4	Ammonia to pressure into the cooling chana and other item	
Day - 6	Ammonia {dry test} tage raining supply sticking	thous days 7740 {24 hours}	

For: EDULA SIVA REDDY COLD STORAGE

E-Her vdl M
Proprietor

WEEKLY REPORT

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

Objective of the Activity Done:

Detailed Report: "Controlled Atmosphere Stores"

- * These are for specific purpose to store some commodities that require special cooling station.
- * These stores are fitted with technological that alter 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-storage cold storage.
- * Multi storage cold storage is the fashion adopted at early refrigeration warehouse when labour cost was not a major concern.
- * The building include 3-12 floor and height of each storage is kept as 7-9 feet as most of multi storage in warehouse.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Enriching level to { 9 TRP }	Ammonia chana cooling liquied	For: EDULA SIVA REDDY COLD STORAGE E. Herath M Proprietor
Day - 2	Dispersant Liquid	total 5 room	
Day - 3	change cooling J.C.C the liquid air door	total +10°C temperature cooling	
Day - 4	Storage Temperature	+10°C temperature	
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 setup 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 aspect 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 {Broyar}	Total brayar	
Day -2	Explanance of cold storage in Fans	$3 \times 5 = 15$	
Day -3	Change that cooling late	storage all cooling	
Day -4	Gas liquied	storage are almost cooling	
Day -5	chana and chilies change	Room cooling	
Day -6	stocks	Supply	

For EDULA SIVA REDDY COLD STORAGE

C. Herant M
Proprietor

WEEKLY REPORT

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

Objective of the Activity Done:

Detailed Report:

Design Consideration Regarding Constitutional Details of cold storage.

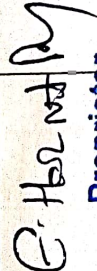
Apart from the above-mentioned consideration there are some other point that are the requirement of any project.

- * Contractual Formalities.
- * Building Specifications
- * Refrigeration System Specifications.
- * Insulation.
- * Electrical requirement
- * Mechanical requirement

In cold store room 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 preferenced Lights, speed to motor.	Motor work	
Day -2	{ LPBY part } compare pressing	100° Double 3½ level oil 6° TDPV	PERI EDULA SIVA REDDY COLD STORAGE  Proprietor
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.	

WEEKLY REPORT

WEEK - 5 (From Dt..... to Dt.....)

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 thickness }
1	Glass Wool, mineral,	3.50
2	cellulose	3.50
3	wood shaving or saw dust	2.22
4	plan expanded extruded polystyrene	5.00
5	Expanded Rubber	4.55
6	Expanded polystyrene modelled bead	3.57
7	Aged expanded polyethylene	6.25
8	Glass fibre	4.00
9	polyisocyanurate	8.00
10	Wood or centrifibre 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 stock to in cold storage	total item	
Day -2	check to spring	{program} any clean cooling	
Day -3	Moter process out	EXchange stock	
Day -4	springgreen. gram moong dal and toor dal, Chana	Total items exchange the shelf left	
Day -5	present study develops coaching	cooling application	
Day -6	Feet - cellulose settled	water cooling in operators room	

FOR: EDULA SIVA REDDY GOLD STORAGE

G. Harish
Proprietor



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.

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	Goods outward	
Day -2	Instant Lot No:- Wife current stock	Customer wife stock detail	
Day -3	Location	Specific Factor Altitude Elevation above sea level	FOR TUDULA SIVA REDDY GOLD STORE G. Harish N Proprietor
Day -4	Environment	Water, atmosphere corrosive and scaling property	
Day -5	Factor	Ease of trans portation in cost - storage availability	
Day -6	Labour	Availability, skill and money.	

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/m²h°C]

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

T_o = Temperature of outside air

T_i = Temperature of inside air

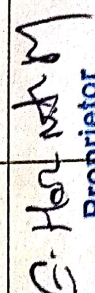
The overall heat transfer coefficient is given by

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

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	Types of the insulation, thickness, resistivity	 G. Harish Proprietor
Day - 3	Surrounding Condition	outside Adjacent space	
Day - 4	Access	Doors and stairway and lift	
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 properties

⇒ Suction pressure:- The suction pressure is required to be higher than the atmospheric pressure to avoid the leakage of the atmospheric gases into the refrigerant so that.

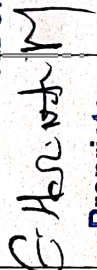
⇒ Discharge pressure:- At a required condenser temperature the pressure should be low to reduce the compress.

⇒ pressure ratio:- As low as possible to reduce the volumetric losses.

⇒ Latent heat of Vapourization:- It 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 NINETH 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	Atmospheric condition	humidity in addition with temperature controlled	
Day -3	cost and development of mechanical equipment	store palleties and non-palletised ware house	For: EDULA SIVA REDDY COLD STORAGE  Proprietor
Day -4	Cold storage	Wise house product available at lower cost	
Day -5	Mini unit or walk-in stores	There are for distribution purpose.	
Day -6	polystyrene	0.24	

WEEKLY REPORT

WEEK - 9 (From Dt..... to Dt.....)

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.

carbondioxide (R744), ammonia (R717) and R32. But these alternatives are either mildly or highly flammable except 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 dal cooling	Room in all stores	
Day -2	The cooling air speed across the rooms	cooling	
Day -3	The Compressor consumes	Compressor	
Day -4	Allmost all the power in cold storage room.	only device	
Day -5	Heat dis fraction at used	Blowars cooling	
Day -6	Water at the sight to lift	3-8 and Roachers	

For: EDULA SIVA REDDY COLD STORAGE

E. Herant
Proprietor

WEEKLY REPORT

WEEK - 10 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

Cold Storage in Flammability:

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

But some refrigerants are 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 be reactive 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	8°C stored temperature	2,500 MT chilly store	
Day - 6	chick peas, split mung, moondal green dal.	In kept to cold storage.	

For: EDULA SIVA REDDY COLD STORAGE

G. Harish M
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 through 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 also done by some changes.

In my project I have selected Farruk bad, cold storage as a base from which insight 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	Rooms are all cooling	
Day -2	The compressor consumes almost all the power in a cold room	compressor only device	
Day -3	Heat dissipation of water at night	3.8 and various line with the Evaporation	
Day -4	Permissible for data centre cooling	overall crop can reach 9.4 for room temperature	
Day -5	Temperature difference $+10^{\circ}\text{C}$	Cooling system	
Day -6	Liquid 45°F run	oil groundnut one in the short	

For: EDULA SIVA REDDY COLD STORAGE

G. Herudh
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 air. Relative humidity of the environment is necessary to maintain in the cold space as to avoid in the water loss from the food and to retain the freshness and quality of the food.

When we gradually decrease the temperature of 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	cellulose pad cooling which is cooled at night by cool-10 speed cooling powder	{CWCT}	
Day -3	Termaxic for Exam climbs at night by high at 3-4 times	stock 3-4 years.	For: EDULA SIVA REDDY COLD STORAGE G. Harish Proprietor
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 Report	

WEEKLY REPORT

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

Objective of the Activity Done:

Detailed Report: 13th Week Reported in Cold Storage:-

The 13th week Internship project data collection information conducted to the in Andhra Pradesh state storage location of Koilkuntla (M) Sanderlennu (V) at Edula Siva Reddy cold storage so many items coming to this storage.

then Red chillies and whole moong orage acknowledged visit as building for this chilly along this room.

In cold storage dry chillies are shipped to loading Laminex truck going to the Kurnool market in Andhra Pradesh dry chillies. going on the Guntur market.

* Hindupuram (M)

* Kurnool (M)

* Guntur

where shipped in 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 (Broyar) -that on explain	Total (Broyar) of 15 each room 5	
Day -2	white stock chick pease, split moong moong dal, Green Gram.	Total item/ commodities proper cooling	
Day -3	Temperature at the storage	15.7 cooling in every room	
Day -4	motor pressure and high speed {21 hypaxed}	{100°C Double 3 1/2 level 01-6 T&V	
Day -5	Chana change (Chinne)	Room cooling	
Day -6	Gas Liquid change them about to operator to cold storage	Storage if always go very cooling.	

For: EDULA SIVA REDDY COLD STORAGE

C. Her not V
Proprietor

WEEKLY REPORT

WEEK - 14 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report: Requirement of air circulation in the cold storage :-

The air inside the cold room gets heated after receiving heat from the product and load 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 to flow from the cooling space to the cooling coils.

Repaid circulation by blower or gun 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 availability of transport activities of level	
Day -2	Building inches	Length 120° Breadth 120	
Day -3	Worked	one operator one packing place burce	
Day -4	Department	Department of All operator name was Gopalamma	
Day -5	cold storage stock lifting	cold storage stock lifting the 5 th floor	
Day -6	Technological developments	Developments of area place edula Siva Reddy Cold storage.	

For: EDULA SIVA REDDY COLD STORAGE

G. Her
Proprietor

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 stores: - These are designed maintaining 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 Career:- As part of research associated with education for sustain ability of RM university sent on invitation to environment professional seeking information about their backgrounds E-F work.

Benefits of a Cold storage:-

The main advantage of using cold storage are:-

- 1) Food product and crops, product can be stored when their supply is plentiful and can be used during the period of short supply.
- 2) Transportation of food stuff from one place to another place is possible.
- 3) Due to reduce of food spoiled by the use 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)

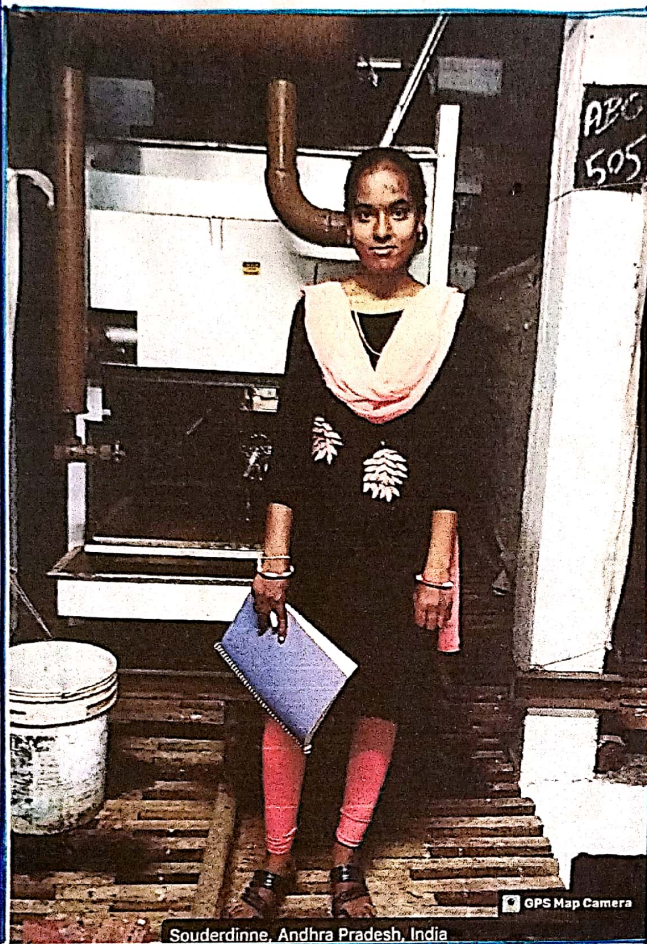
Technological Skills:-

- * Develop and maintain local networks in ways that optimize performance.
- * provide orientation and guidance to users on how to operate new software and computer equipment.
- * Check computer hardware {HDD, mouse, keyboard} to ensure functionality.
- * Install and configure appropriate software and functions according to specifications.

Information Technology [I.T]:-

is the use of computers to create, process, store, retrieve, and exchange all kinds of data and information.

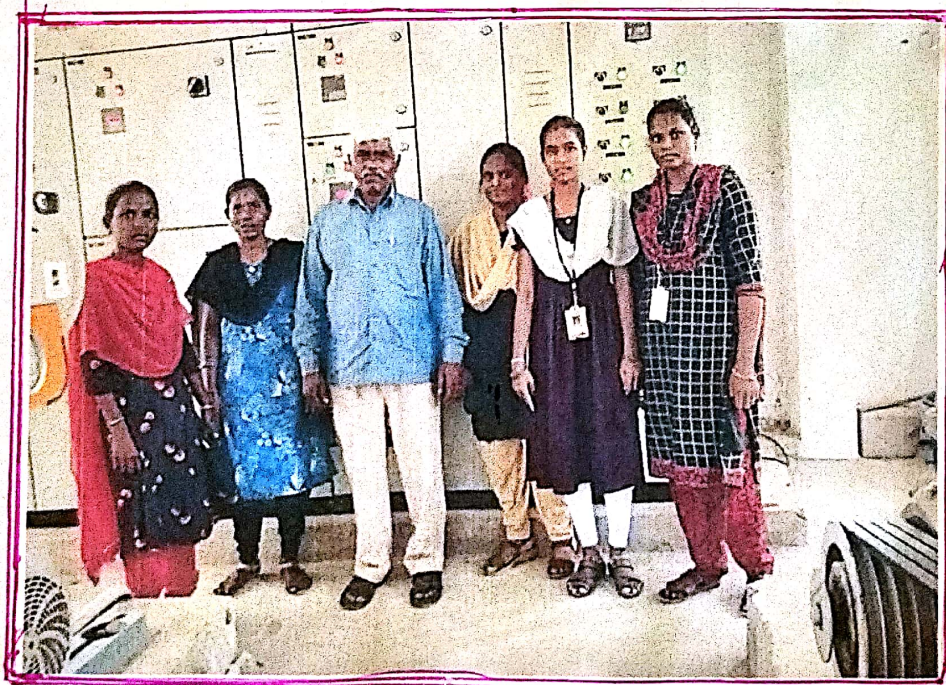
- * [ICF] information & communication system technology.
- * Technological skills are feature useful in communication development required the student feature jobs in technological skills.



Souderdinne, Andhra Pradesh, India



Souderdinne, Andhra Pradesh, India



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 agency

* Storage in that 3 or 5 years stock 300 killope bading 450 supply in stock at Edula siva reddy cold storage.

* Building = 180 inches

length = 120

Breadth = 120

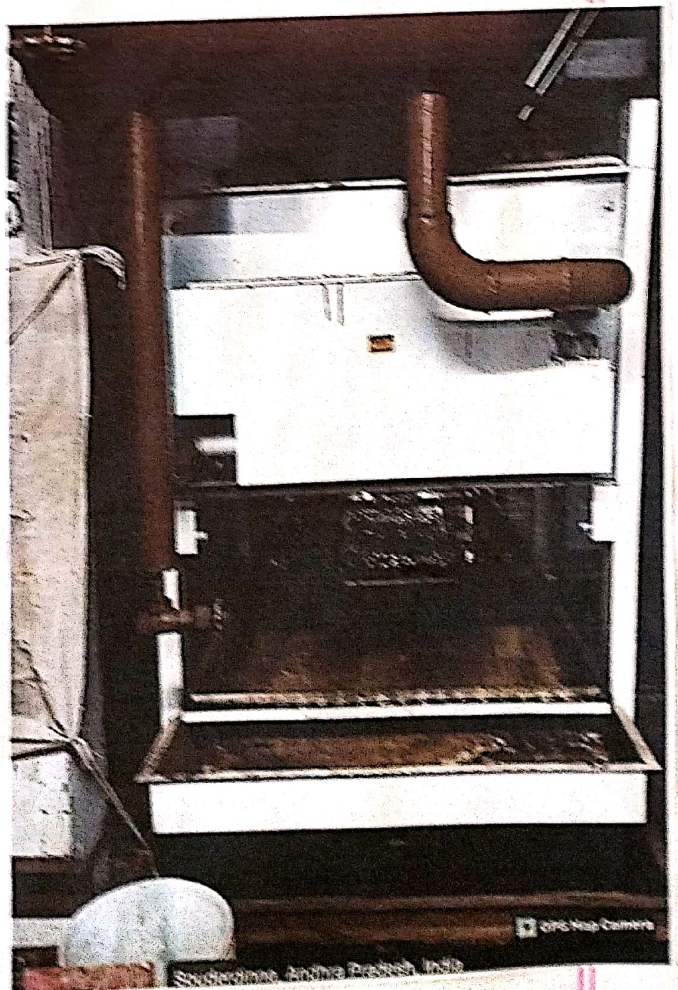
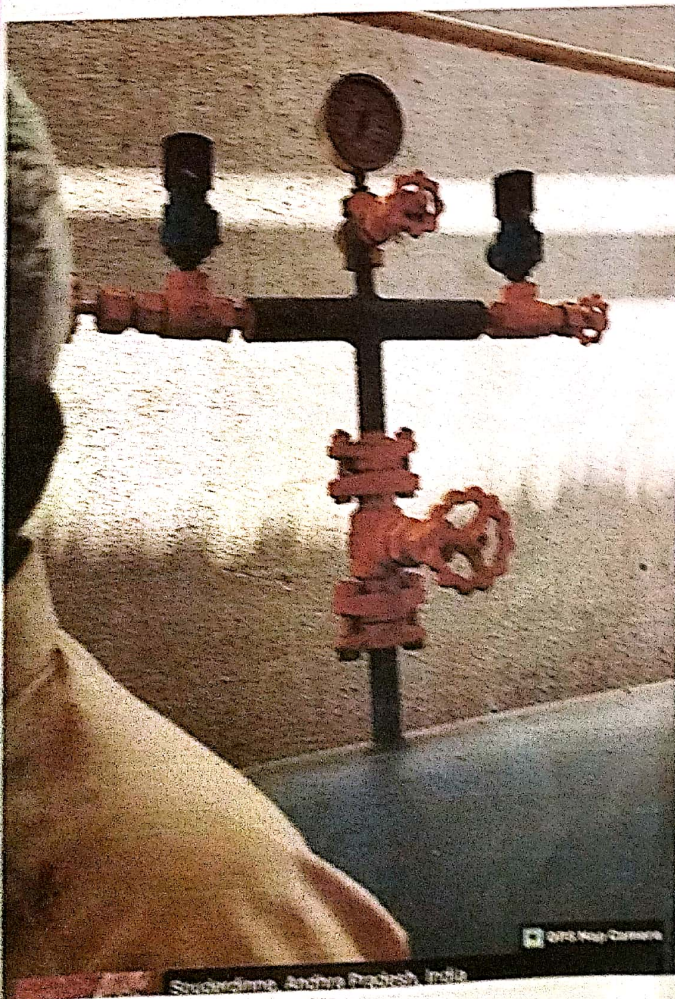
* Workers (2) and one coporate one packing place four number in the Edula Siva Reddy cold storage.

Ex:- Farmers cold storage stock are useful 3 or 4 years stock in chillies one person Samula nageswarao 300 and 500 stocks store.



*

way



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 quality 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 prices to the growers.

Basic and presumptions:-

The project is based on an average 90% percent capacity utilisation, there shifts working per day and 300 working days per annum.

For economic viability on ICE block manufacturing unit has also been included in the project.

CASCADE REFRIGERATION :-

The Traditional Single-Stage compression refrigeration system (SSCRS) and single-stage absorption refrigeration system are two basic forms of the refrigeration technology.

SSCRS has a wide wide range of applications. For example in the field of hypothermic medicine, cryopreservation for instruments.

In a 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, that 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) Nageswarreddy sir group (2) S. Raja sir

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

My group students then:- K. Siva Naik, K. Sreenivayudu Naik, K. Dharam, A. Nagalakshmi, Hunaine, D. Sunil. We are all discussed to cold storage

My name Akula. Nagalakshmi iam write to long term internship project work about the edula siva reddy cold storage.

We are all participated of team and individual going to cold storage.

Then A/C Department operator has name Gopal Varma he was explained to cold storage and guidance of more information.

Me and my friends consult leasing about cold storage

Other wise many information of write on the project work record.

In cold storage room $+10^{\circ}\text{C}$ 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 into the loading to truck, so many item export to some markets.

Cold storage stock lifting in door loading the 5th floor kept to chillies, tor dal, Chana, whole moong chick peas, split moong, moong dal temperature $+10^{\circ}\text{C}$ storage temperature ammonia

Used to total broyar $3 \times 5 = 15$ and 16.0 cooling.

celulose - pad water not spoiled many products 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 relevant:-

Technological developments area place edula siva reddy cold storage.

Me observed many activities, services. Awareness of some items kept in cold storage.

Then at the cold storage importance of crops coming to edula siva reddy cold storage and ware house

me view to many crops import.

Example:- Moong dal, Red gram, Dry chillies, chana, Black gram, white gram moong etc.

chilling Injury:- chilling injury is called by low temperature and generally affects chillies and crops causing improper ripening discolouration, texture change etc.

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

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

⇒ Water melon - 11.4°C

⇒ potatoes - 3.3°C

⇒ chillies - 7.2°C

Thermal Insulation of cold storage:-

Since heat flows from high temperature area to lower temperature region. There is a continuous flow of heat from the surroundings to the refrigerator or condition 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: Akula Nagalakshmi Registration No: 21110041001
Term of Internship: From: 22/01-2024 To: 30-4-2024
Date of Evaluation: 30/04/2024
Organization Name & Address: Akula Siva Reddy cold storage
Gopalavarma.

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

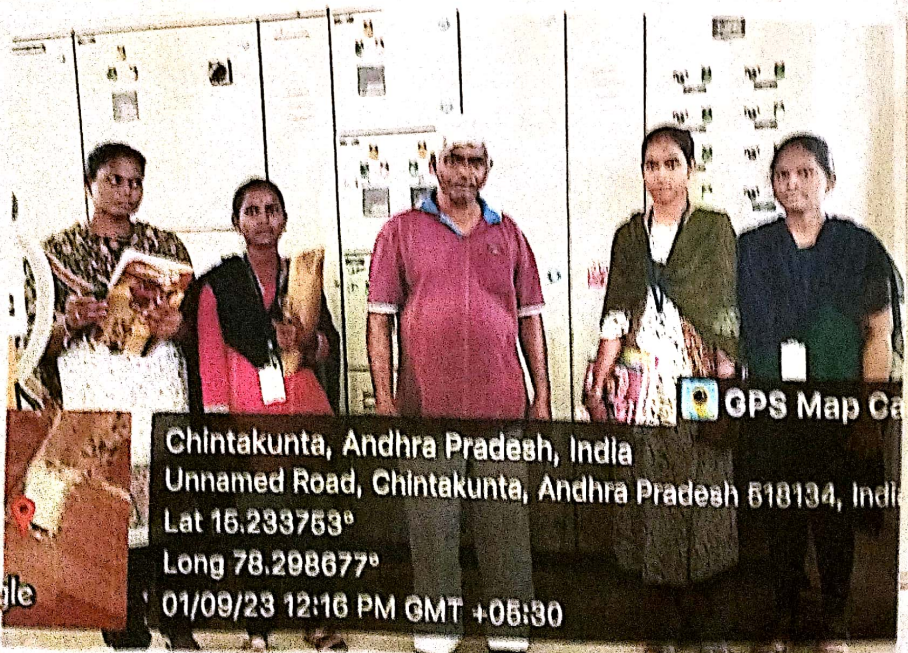
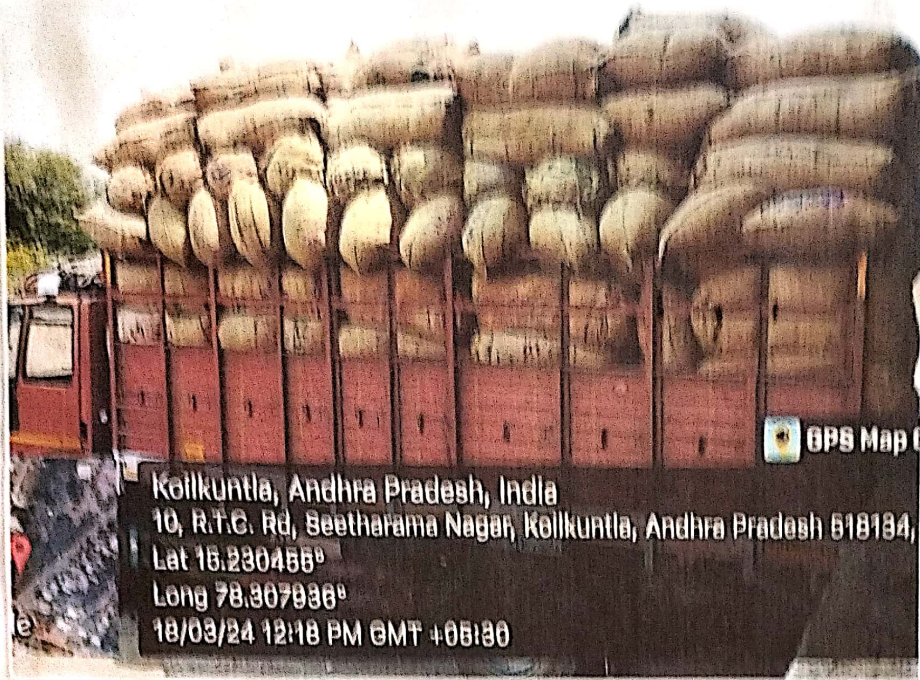
Date: 30/04/2024

A. Nagalakshmi
Signature of the Student

Evaluation by the Supervisor of the Intern Organization

Page No





Student Name: Akula Nagalakshmi Registration No: 21110041001

Term of Internship: From: 21/01/2024 To: 30/04/2024

Date of Evaluation: 30/04/2024

Organization Name & Address: Edula shiva reddy cold storage SNO:110
Soudaradinne (vi), kailakuntla (M)
Name & Address of the Supervisor : Gopala varma.
with Mobile Number : 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
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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 SHIVA REDDY COLD STORAGE
Signature of the Supervisor
Proprio

Vapour Barriers:

Properties of insulation material:-

Material	Density m ³	Thermal conductor	Temperature °C
poly ethane	30-32	0.015	110-200
Thermal	15-30kg	0.025 to 0.028	75-200
cork	120-160	0.036	90-150
phenotherm	30-34	0.016	130-196

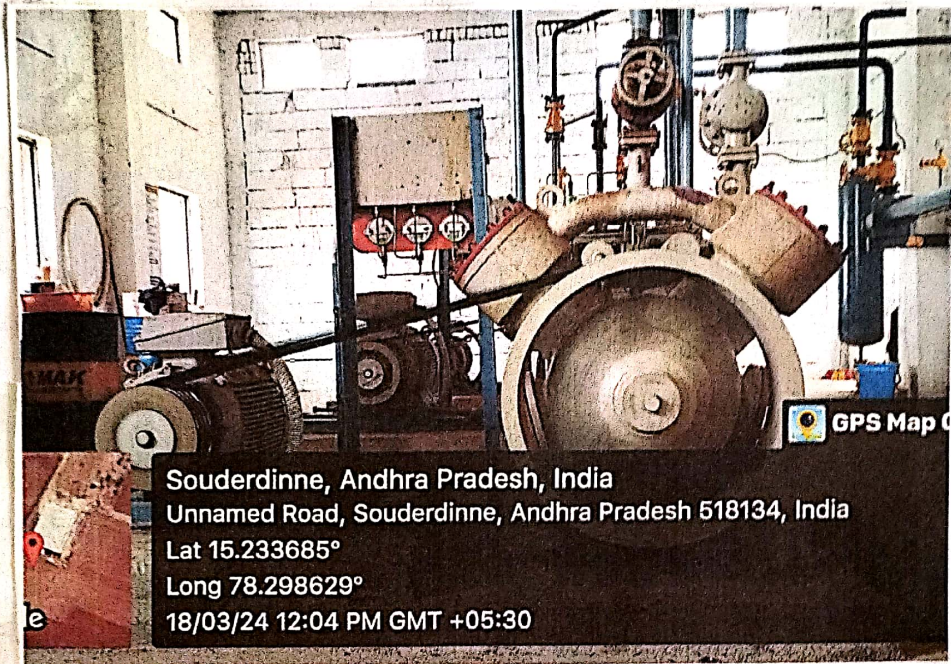
Vapour Barriers:-

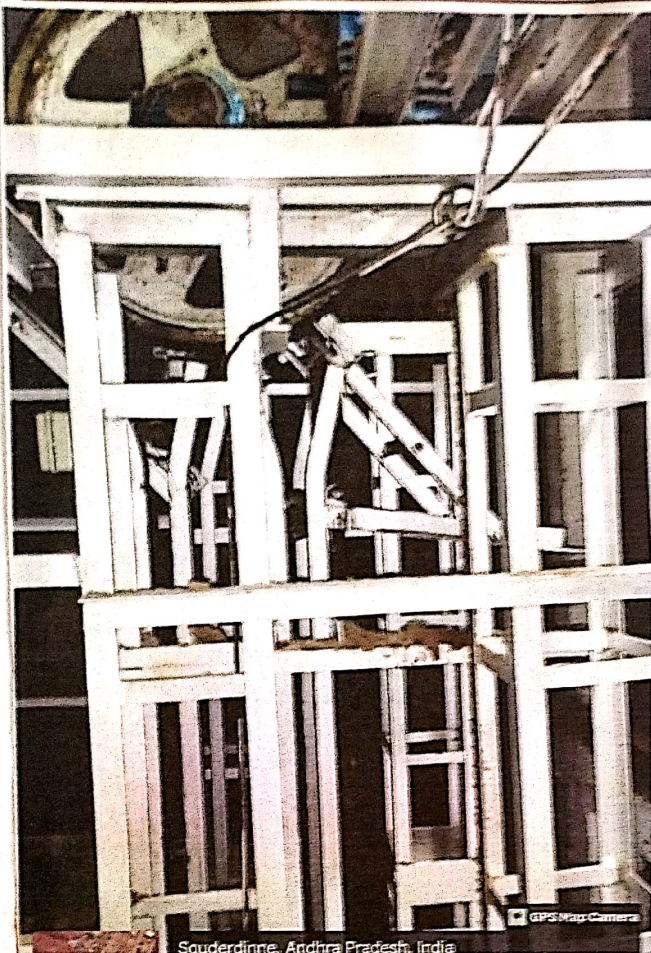
The water vapour in air tends to move from warmer region to colder region due to vapour pressure difference as the temperature difference between the surrounding and conditioned area.

cold storage, refrigerated area increase, the vapour pressure different also increases.

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

PHOTOS & VIDEO LINKS





Souderdinne, Andhra Pradesh, India



Chintakunta, Andhra Pradesh, India



Air movement:- In cold storages, 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 storages. 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, moong dal, in storage 50 kg and 100 kg for this season stacking must be proper and stable to avoid damage handling storage and transportation.

RESULT AND DISCUSSION:-

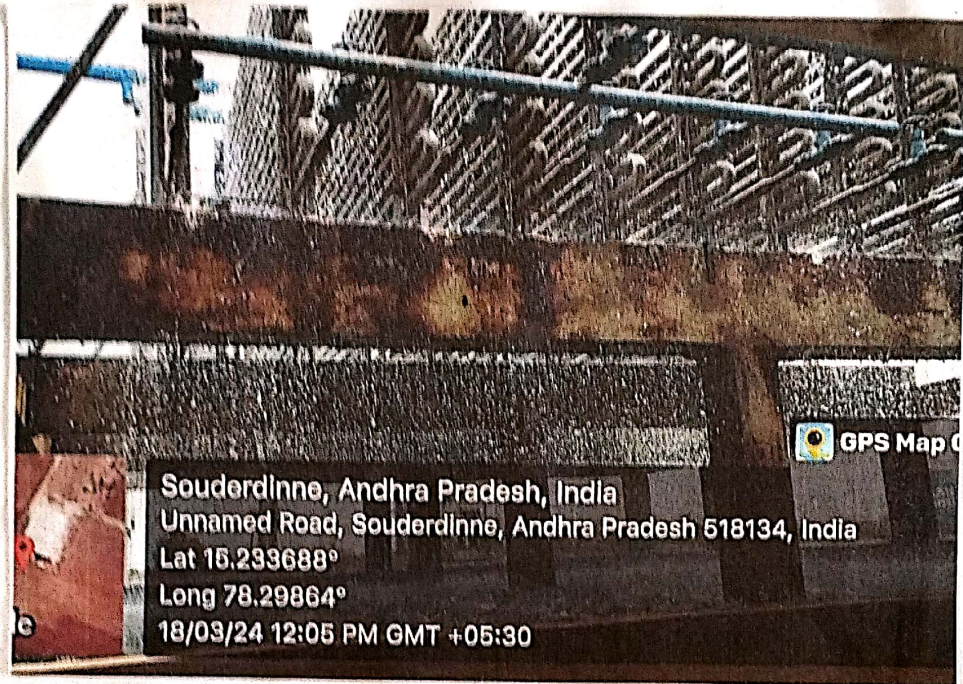
Firstly, the survey and data collection were done and building details and refrigeration system details were obtained. After this survey energy consumption of the cold storage refrigeration capacity of the system and load calculations were done using Equest software and calculation.

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

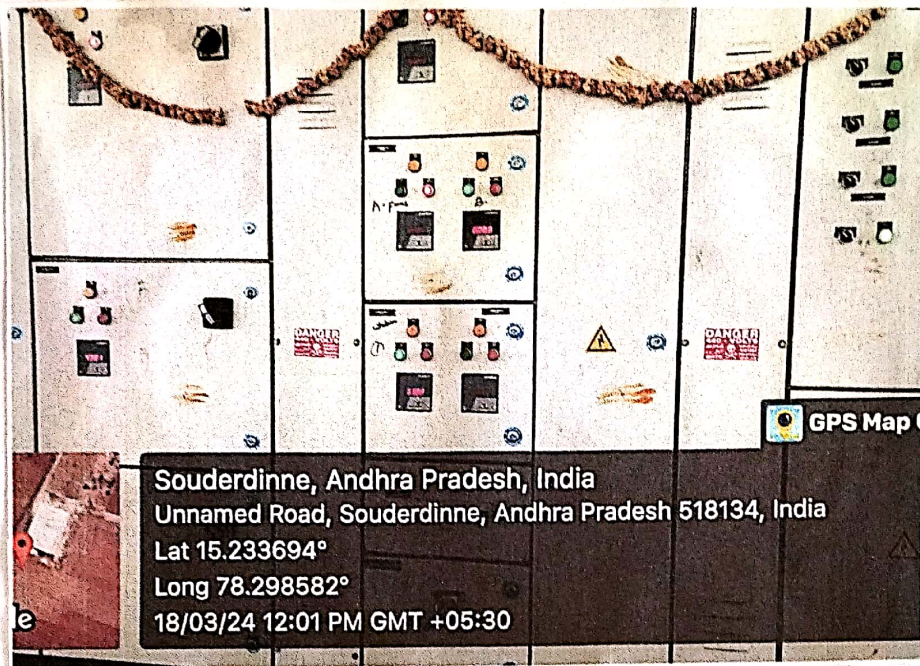
Sensible heat loss through walls:-

	With Green Wall (mm^2)	Without Green Wall (mm^2)
South	21.87	43.75
East	13.07	28.30
West	22.45	30.56



EVALUATION





Internal & External Evaluation for Semester Internship

Objectives:

- Explore career alternatives prior to graduation.
- To assess interests and abilities in the field of study.
- To develop communication, interpersonal and other critical skills in the future job.
- To acquire additional skills required for the world of work.
- To acquire employment contacts leading directly to a full-time job following graduation from college.

Assessment Model:

- There shall be both internal evaluation and external evaluation
- The Faculty Guide assigned is in-charge of the learning activities of the students and for the comprehensive and continuous assessment of the students.
- The assessment is to be conducted for 200 marks. Internal Evaluation for 50 marks and External Evaluation for 150 marks
- The number of credits assigned is 12. Later the marks shall be converted into grades and grade points to include finally in the SGPA and CGPA.
- The weightings for Internal Evaluation shall be:
 - Activity Log 10 marks
 - Internship Evaluation 30 marks
 - Oral Presentation 10 marks
- The weightings for External Evaluation shall be:
 - Internship Evaluation 100 marks
 - Viva-Voce 50 marks
- The External Evaluation shall be conducted by an Evaluation Committee comprising of the Principal, Faculty Guide, Internal Expert and External Expert nominated by the affiliating University. The Evaluation Committee shall also consider the grading given by the Supervisor of the Intern Organization.
- Activity Log is the record of the day-to-day activities. The Activity Log is assessed on an individual basis, thus allowing for individual members within groups to be assessed this way. The assessment will take into consideration

the individual student's involvement in the assigned work.

- While evaluating the student's Activity Log, the following shall be considered -
 - a. The individual student's effort and commitment.
 - b. The originality and quality of the work produced by the individual student.
 - c. The student's integration and co-operation with the work assigned.
 - d. The completeness of the Activity Log.
- The Internship Evaluation shall include the following components and based on Weekly Reports and Outcomes Description
 - a. Description of the Work Environment.
 - b. Real Time Technical Skills acquired.
 - c. Managerial Skills acquired.
 - d. Improvement of Communication Skills.
 - e. Team Dynamics
 - f. Technological Developments recorded.

MARKS STATEMENT
(To be used by the Examiners)

Page No



INTERNAL ASSESSMENT STATEMENT

Name Of the Student: Akula. Naga lakshmi
Programme of Study: Long term Internship Project
Year of Study: 2021 - 2024
Group: BA [H.E.P]
Register No/H.T. No: 21110041001.
Name of the College: SVB degree college koilakuntla
University: Rayalaseema university kumool.

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

Signature of the Faculty Guide

For: EDULA SIVA REDDY COLD STORGE

E. H. R. N. M.
Proprietor

EXTERNAL ASSESSMENT STATEMENT

Name Of the Student: Akula Naga lakshmi

Programme of Study: Long term internship project

Year of Study: 2021-2024

Group: BA [H.E.P]

Register No/H.T. No: 21110041001.

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	134
GRAND TOTAL (EXT. 50 M + INT. 100M)		200	

Signature of the Faculty Guide

[Signature] 30/11/24

Signature of the Internal Expert

[Signature] 30/11/24

Signature of the External Expert

[Signature]

Signature of the Principal with Seal

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



ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory Body of the Government of Andhra Pradesh)

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