GOVERNMENT DEGREE COLLEGE,
JAMMALAMADUGU
(Reaccredited by NAAC With ' B ' Grade)
(Affiliated to Yogi Vemana University, Kadapa)
Ramireddy Palli Road, Y.S.R Kadapa District, Andhra Pradesh 516 434

GOVERNMENT DEGREE COLLEGE, JAMMALAMADUGU

EXTENSION LECTURE REPORT

on

"COMPONENTS OF REFRIGERATOR"

ORGANIZED BY

Internal Quality Assurance Cell and Department of Physics

SKR & SKR GOVERNMENT COLLEGE FOR WOMEN (A), KADAPA

Date: 07-11-2026

VENUE: SKR & SKR GOVERNMENT COLLEGE FOR WOMEN (A) KADAPA

Date : 04.11.2026

From
The Principal
SKR & SKR Govt College For Women (A)
Kadapa

To
The Principal,
Government Degree College
Jammalamadugu,
YSR Kadapa Dist

Respected Sir,

Sub: SKR & SKR GCW (A), Kadapa – Deputation of Sri.C.Balasubramanyam, Lecturer in Physics to deliver a Guest Lecture on 07.11.2026 – Request – Reg.

Ref : Letter from Dept. of Physics/ Guest Lecture/2026, Dated :04.11.2026

With reference to the above, I submit that the Dept. of Physics is going to conduct a Guest Lecture to the III B.Sc students in Paper 15 : Low Temperature Physics and Refrigeration, Unit IV : Components of Refrigerators. So I request you to give permission and relive Sri.C.Balasubramanyam, Lecturer in Physics, Govt. Degree College, Jammalamadugu, YSR Kadapa to deliver a guest lecture on 07.11.2026 (Saturday) from 11:00 AM to 1:00 PM at SKR & SKR GCW (A), Kadapa.

This is for your kind consideration,

Yours faithfully

Dr,S,Smitha
Principal
SKR & SKR GCW (A)
Kadapa

Copy to:

1. Sri.C.Balasubramanyam, Lecturer in Physics, Govt. Degree College, Jammalamadugu, YSR Kadapa for information and compliance.

From
The Principal,
Govt Degree College ,
Jammalamadugu.
YSR Kadapa(Dt).

To
The Principal,
SKR&SKR GCW(A), Kadapa,
YSR Kadapa (Dt).

Rc.No.84 /Spl/Guest Lecture/2026-27 Dated 06.11.2026

Madam,

Sub:- Government Degree College, Jammalamadugu- Deputation of Sri. C. Balasubramanyam, Lecturer in Physics to engage Guest Lecture– Regarding.

Ref. Letter from the Principal, SKR&SKR GCW(A), Kadapa.Dt.04.11.2026

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As in the reference cited, Sri. C. Balasubramanyam, Lecturer in Physics is relieved from his duties on the A.N of 06.11.2026 to deliver Guest Lecture on " Components of Refrigerator" on 07.011.2026 at SKR&SKR Government Degree College for Women(A), Kadapa. Further, The Principal, SKR&SKR GCW(A), are requested to issue attendance certificate.

Thanking you madam

PRINCIPAL
Government Degree College
JAMMALAMADUGU.
6/11/2026

Copy to

1.Sri. C.Balasubramanyam, Lecturer in Physics

2. Copy to the office

SKR & SKR GOVT. COLLEGE FOR WOMEN (A), KADAPA

NAAC Reaccredited with 'B' Grade
(Affiliated to Yogi Vemana University)

Attendance Certificate

This is to certify that Sri. C.Balasubramanyam, Contract Lecturer, Govt. Degree College, Jammalamadugu, YSR Kadapa Dist. Has attended and gave a Guest Lecture on " Components o Refrigirator" to III B.Sc Physics (Single Major) students at Dept. of Physics, SKR & SKR Govt. College for Women, Kadapa on 07.11.2026

SKR & SKR GOVT. COLLEGE FOR WOMEN KADAPA DATE 7/11/2026

Principal 7/11/26

PRINCIPAL
SKR & SKR Govt. College for Women
KADAPA.

7/11/26

Profile of the Speakers/Resource Persons

Sri. C. BALASUBRAMANYAM

Current Position: Lecturer, Department of Physics,

Government Degree College, Jammalamadugu

YSR Kadapa (Dist), Andhra Pradesh, India

Mobile: (+91)-9705349068

E-mail: balasubramanyam18@gmail.com

Academic Records:

i) M.Sc. (S.K University-61%)

ii) M. Phil (Periyar University, SALEM)

iii) Qualified APSET in 2018

Teaching Experience: (24 Years)

SYNOPSIS

COMPONENTS OF A REFRIGERATOR

Introduction

A refrigerator is an important household electrical appliance used for preserving food items, beverages, vegetables, fruits, and other perishable materials at low temperatures. It works on the principle of refrigeration, in which heat is removed from the interior compartment and transferred to the surrounding environment. The refrigerator maintains a low temperature by continuously circulating a refrigerant through a closed refrigeration cycle.

The refrigeration system mainly consists of four essential components: compressor, condenser, expansion valve or capillary tube, and evaporator. These components work together to absorb heat from the refrigerator compartment and release it into the surroundings. The continuous circulation of refrigerant through these components produces the cooling effect.

Objectives

- To understand the basic construction of a refrigerator.
- To identify the four major components of a refrigerator.
- To study the functions of the compressor, condenser, expansion valve, and evaporator.
- To understand the working principle of the refrigeration cycle.
- To develop knowledge about the importance of refrigeration in daily life.

Major Components of a Refrigerator

The four major components of a refrigerator are:

1. Compressor (P)
2. Condenser (C)
3. Expansion Valve or Capillary Tube (R)
4. Evaporator (E)

Working Principle of a Refrigerator

A refrigerator works on the principle of the vapour compression refrigeration cycle. In this cycle, the refrigerant continuously circulates through four major components.

The working process takes place in the following stages:

Stage 1: Compression

The compressor receives low-pressure refrigerant vapour from the evaporator and compresses it into high-pressure and high-temperature vapour.

Stage 2: Condensation

The high-pressure refrigerant vapour enters the condenser. It releases heat to the surrounding air and changes into a high-pressure liquid.

Stage 3: Expansion

The high-pressure liquid refrigerant passes through the capillary tube. Its pressure and temperature decrease, preparing it for the evaporation process.

Stage 4: Evaporation

The low-pressure refrigerant enters the evaporator and absorbs heat from the refrigerator compartment. It evaporates into vapour, producing the cooling effect.

The refrigerant vapour then returns to the compressor, and the cycle repeats continuously.

Applications of a Refrigerator

Refrigerators are widely used in various fields:

- Preservation of food items and beverages.
- Storage of fruits, vegetables, and dairy products.
- Domestic and commercial food storage.
- Preservation of medicines and certain laboratory materials.
- Maintaining low temperatures in hotels, restaurants, and supermarkets.

Outcome: Students will be able to identify the major components of a refrigerator (compressor, condenser, expansion valve/capillary tube, and evaporator) and explain their functions and working principle of the vapour compression refrigeration cycle.

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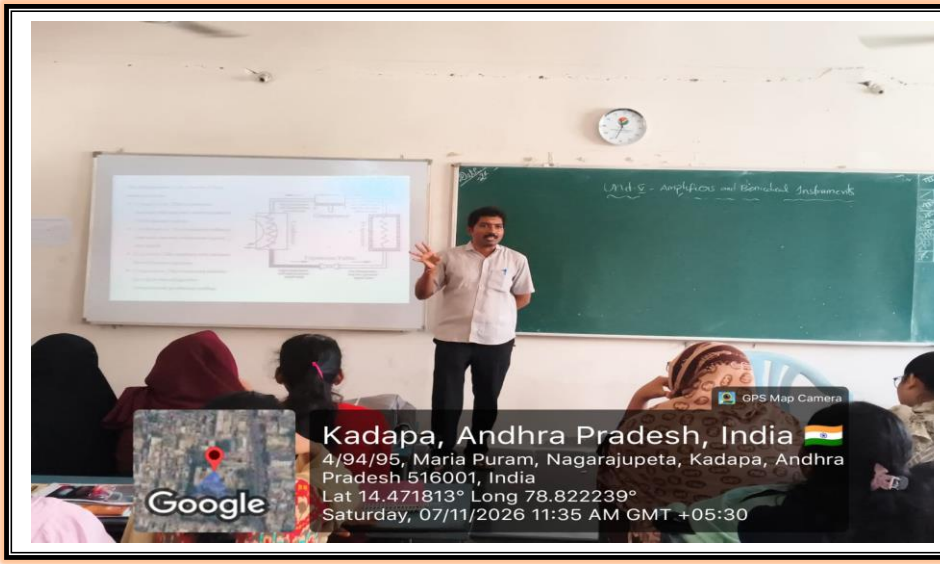
INTERNAL QUALITY ASSURANCE CELL

ACADEMIC YEAR: 2026-27

REPORT ON EXTENSION LECTURE

Name of the Program	EXTENSION LECTURE
Title	COMPONENTS OF REFRIGERATOR
Date	07.10.2026
Mode (Online/Offline)	Offline
Venue	SKR & SKR GOVERNMENT COLLEGE FOR WOMEN (A)
Department	IQAC & PHYSICS
Objective	To provide students with a clear understanding of the construction, working principle, and applications of components of refrigerator.
Resource Person Details	Sri. C. BALASUBRAMANYAM, Lecturer in Physics GDC, JAMMALAMADUGU, Kadapa (Dist.)
Beneficiaries	All the Physics Students
No. of Beneficiaries	19
Outcome	**Outcome:** Students will be able to identify the major components of a refrigerator (compressor, condenser, expansion valve/capillary tube, and evaporator) and explain their functions and working principle of the vapour compression refrigeration cycle.
Feedback	Very Good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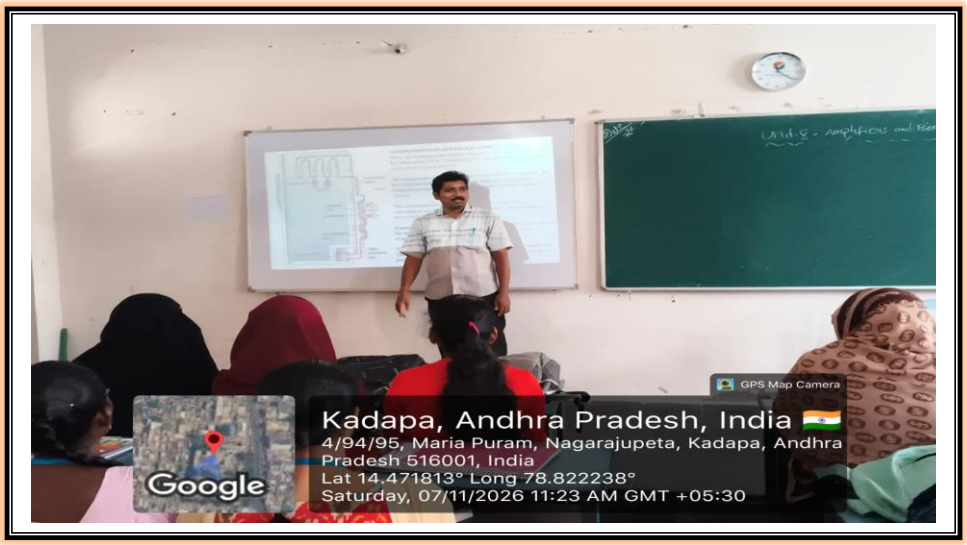
4/94/95, Maria Puram, Nagarajupeta, Kadapa, Andhra Pradesh 516001, India
Lat 14.471813° Long 78.822239°
Saturday, 07/11/2026 11:35 AM GMT +05:30
Google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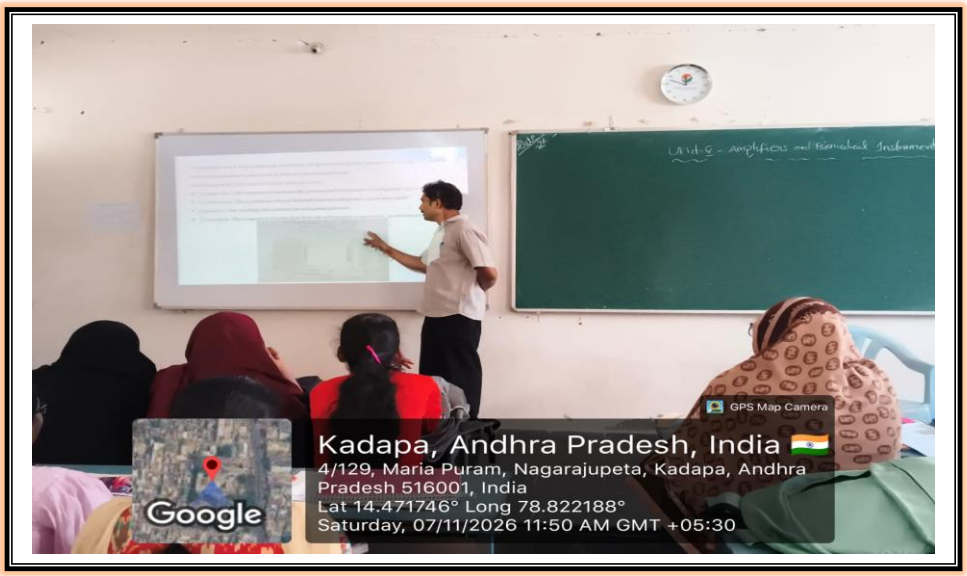
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Google


GPS Map Camera
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Saturday, 07/11/2026 11:35 AM GMT +05:30
Google


GPS Map Camera
Kadapa, Andhra Pradesh, India
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Saturday, 07/11/2026 12:01 PM GMT +05:30
Google

Date: 07.10.2026

CERTIFICATE OF APPRECIATION

This is to certify that **Sri. C. Balasubramanyam**, Contract Lecturer in Physics, Government Degree College, Jammalamadugu, Kadapa District, has delivered a **Guest Lecture on "COMPONENTS OF REFRIGERATOR"** to the students at SKR & SKR **Government College for Women(A), Kadapa, Kadapa District**, on **07.10.2026**. His expertise and valuable insights greatly enriched the session and benefited the students.

SKR & SKR GOVT COLLEGE FOR WOMEN DATE 7/10/2026 KADAPA

PRINCIPAL

PRINCIPAL
SKR & SKR Govt. College for Women
KADAPA.

STUDENTS FEEDBACK

Name of the Lecturer : Sri. C. Balasubramanyam

Designation : Lecturer in Physics

Name of the Working College : Government Degree College, Jammalamadugu

Given Guest Lecture College : SKR & SKR Government College for Women(A), Kadapa

Delivered Lecture : COMPONENTS OF REFRIGERATOR

Date : 07.11.2026

S.No	Name of the Student	Department	Feedback/Suggestion	Signature
1-	S.khatijatul kubra	physics	Excellent	S.khatijatul kubra
2.	Syed. Ayesha	physics	Excellent	Syed. Ayesha
3.	Syed Mehak	physics	excellent	S. Mehak
4.	K. Bhargavi	physics	excellent	K. Bhargavi
5.	C. Jhanvi	physics	excellent	C. Janvi
6.	B. vishnu priya	physics	excellent	B. vishnu priya.
7.	B. Harshitha	physics	excellent	B. Harshitha
8.	B. Nyasantha	physics	excellent	B. Nyasantha
9.	D. chennamma	physics	Excellent	D. chennamma.
10	S. Sivavani	Physics	Excellent	S. Sivavani
11.	R. Diya	physics	good	R. Diya
12.	Shaik. Humiya	physics	good	Shaik. Humiya.
13	V. Vyshnavi	physics	good	V. Vyshnavi
14	S. Afiya	physics	Very good	S. Afiya
15	S. Arshiya	physics	Very good	S. Arshiya
16	S. Saziamusken	physics	good	S. Saziamuskan
17	M. Sravani	physics	Excellent	M. Sravani
18.	T. Anjali	physics	Very good	T. Anjali
19.	S. Sowmya	physics	good	S. Sowmya