

23ME702

# :REFRIGERATION AND AIR CONDITIONING

UNIT -5

**Air Conditioning Refrigeration System**

**Mrs. G Anitha**

Assistant Professor, Mechanical and Engineering  
Narsimha Reddy Engineering College (Autonomous)  
Secunderabad, Telangana, India- 500100.



**NARSIMHA REDDY ENGINEERING COLLEGE**  
**UGC AUTONOMOUS INSTITUTION**

Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India

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- **Introduction**
- **What is Air Conditioning?**
- Air conditioning is the process of controlling:
  - Temperature
  - Humidity
  - Air purity
  - Air circulation
- Used for **human comfort and industrial needs.**

- **Objectives of Air Conditioning**

- **Main Objectives**

- Maintain comfortable indoor temperature
- Control humidity level
- Provide clean and fresh air
- Improve air quality
- Ensure proper air distribution

- **Types of Air Conditioning**
- **Classification**
- Comfort Air Conditioning
- Industrial Air Conditioning
- Summer Air Conditioning
- Winter Air Conditioning
- Year-round Air Conditioning

- **Comfort Air Conditioning**
- **Human Comfort System**
- Designed for human comfort
- Used in homes, offices, hotels
- Maintains temperature around 22°C–25°C
- Controls humidity and airflow

- **Industrial Air Conditioning**

- **Purpose**

- Used in industries
- Requires strict environmental control
- Examples:
  - Textile industry
  - Printing industry
  - Pharmaceutical industry
- Controls temperature, humidity, dust
- .

- **Winter Air Conditioning**
- **Working in Winter**
- Heats indoor air
- Adds required humidity
- Uses heaters or heat pumps
- Maintains comfort in cold weather

- **Summer Air Conditioning**
- **Working in Summer**
- Lowers temperature of indoor air
- Removes moisture from air
- Uses refrigeration system
- Common in hot climates

- **Winter Air Conditioning**
- **Working in Winter**
- Heats indoor air
- Adds required humidity
- Uses heaters or heat pumps
- Maintains comfort in cold weather

- **Basic Components of Air Conditioning System**

- **Main Parts**

- Compressor
- Condenser
- Evaporator
- Expansion valve
- Fans & filters
- Duct system



**Thank You . .**