

# **K.L.N. COLLEGE OF ENGINEERING**

POTTAPALAYAM-630612

## **DEPARTMENT OF MECHANICAL ENGINEERING**

(Accredited by NBA, New Delhi)

in association with

**TRAINING & PLACEMENT CELL**

&

**GULF TECHNICAL INSTITUTE  
ORGANIZES**



## **Technical Training Programme on HEATING VENTILATION & AIR CONDITIONING (HVAC)**

**20 – 24 January 2018**

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**K.L.N College of Engineering.**
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## ABOUT HVAC

Heating, ventilation, and air conditioning (HVAC) is the technology of indoor and vehicular environmental comfort. Its goal is to provide thermal comfort and acceptable indoor air quality. HVAC system design is a subdiscipline of mechanical engineering, based on the principles of thermodynamics, fluid mechanics, and heat transfer. Refrigeration is sometimes added to the field's abbreviation as HVAC&R or HVACR, or ventilating is dropped, as in HACR (as in the designation of HACR-rated circuit breakers).

HVAC is an important part of residential structures such as single family homes, apartment buildings, hotels and senior living facilities, medium to large industrial and office buildings such as skyscrapers and hospitals, on ships and submarines, and in marine environments, where safe and healthy building conditions are regulated with respect to temperature and humidity, using fresh air from outdoors.

Ventilating or ventilation (the V in HVAC) is the process of exchanging or replacing air in any space to provide high indoor air quality which involves temperature control, oxygen replenishment, and removal of moisture, odors, smoke, heat, dust, airborne bacteria, carbon dioxide, and other gases. Ventilation removes unpleasant smells and excessive moisture, introduces outside air, keeps interior building air circulating, and prevents stagnation of the interior air.

## COURSE CONTENTS

- Introduction to HVAC
- Various types of Refrigerants
- Various types of Refrigerators
- Vapour compression cycle
- Window A/C- Construction, Working principle
- Trouble shooting
- Split A/C- Construction, Working principle
- Trouble shooting
- HVAC Electrical Controls, HVAC Design ( Heat load calculation – Manual method) & Psychrometrics
- Ventilation system, Radiant cooling introduction ( HVAC Design)
- Window A/C – Trouble Shooting
- Split A/C – Trouble Shooting
- Industrial Visit