PERIYAR UNIVERSITY

NAAC A++ Grade - State University - NIRF Rank 63 - ARIIA Rank - 10

Salem-636011, Tamil Nadu, India

INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY

PEEC
ENERGIZE THE GLOBE

VALUE ADDED COURSE
on
REFRIGERATION & AIR CONDITIONING

Date: 22.02 2023 **Time: 10.00 am**

Venue: Smart Class Room, Dept. of Energy Sci. & Tech.

INAUGURAL FUNCTION

Prayer Song

Welcome Address : **Dr. K. A. Ramesh Kumar**
Convener-Value Added Course
Professor & Head
Department of Energy Science and Technology
Periyar University, Salem

Presidential Address : **Prof. R. Balagurunathan**
Registrar (FAC)
Periyar University, Salem

Keynote Speaker (Industrial Person) : **Mr. P. V. Vidyanath**
President - ISHRAE Salem Sub - Chapter
Manager, Weather Dynamics
Air conditioning Experts, Salem

Vote of Thanks : **Dr. P. Maadeswaran**
Coordinator-Value Added Course
Assistant Professor
Department of Energy Science and Technology
Periyar University, Salem

National Anthem

Organize Members

Dr. R. Thangappan
Dr. A. Ganapathi
Mr. K. Prakash
Dr. K. Maniammal
Dr. T. Elangovan
Mr. B. Janarthanan
Mr. S. Srinath
Mr. N. Narayanakumar

All are Welcome

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REFRIGERATION & AIR CONDITIONING (22UPESTVA07)

SYLLABUS :

Applications of air-conditioning and refrigeration, energy usage in air-conditioning/ buildings - Designation of refrigerants, Selection of refrigerants, Ozone Depletion Potential (ODP) and Global Warming (GW), Montreal and Kyoto protocols Total Equivalent Warming Index (TEWI), Azeotropic and zeotropic mixtures, alternative to existing CFC and HCFC refrigerants.

Major system types in air-conditioning: unitary, package, central chilled water based systems; components of chilled water system, concept of primary-secondary chilled water pumping; concept of variable flow systems, components of non-chilled water based system, types and role for energy efficiency, comparison of variable refrigerant flow and constant flow systems

Introduction to Building Management System, major components and use of BMS, instrumentation

COURSE OUTCOME :

- Explain the different types of refrigerant, their properties, and select appropriate refrigerant for a HVAC system.
- Explain different types and components of RAC systems.
- Apply the safety and types of control in HVAC systems

REFRIGERATION :

In air refrigeration, the air is used as a refrigerant. In olden days, air was widely used in commercial applications because of its availability at free of cost. Since air does not change its phase i.e. remains gaseous throughout the cycle, therefore the heat carrying capacity per kg of air is very small as compared to vapour absorbing systems.

AIR-CONDITIONING :

The air conditioning is that branch of engineering science which deals with the study of conditioning of air i.e. supplying and maintaining desirable internal atmospheric condition for human comfort, irrespective of external condition. This subject, in its broad sense, also deals with the conditioning of air for industrial purpose, food processing, storage of food and other materials.

Total Hours
36 Hours