ISTE STAFF CHAPTER (TN 205)
ACADEMIC YEAR 2023-24(EVEN SEMESTER)

Staff Seminar Report

A one day seminar titled "**Renewable Energy Sources"** was organized by ISTE Staff Chapter [TN 205] on **23.03.2024** from 3.00p.m. to 4.00p.m. to the faculty members of Kings College of Engineering with an objective to offer a better understanding of Renewable Energy Sources. Welcome address was delivered by **Mrs.T. Gnanajeya**, Coordinator / ISTE Chapter. The session was handled by the resource person **Mrs.D. Vennila,** Assistant Professor / Department of Electronics and Communication Engineering**.**

Renewable Energy :

Renewable energy is energy derived from natural resources that are replenished at a higher rate than they are consumed. Renewable energy sources are plentiful and all around us.

Non-Renewable Energy:

Non renewable energy resources include coal, natural gas, oil, and nuclear energy. Once these resources are used up, they cannot be replaced, which is a major problem for humanity as we are currently dependent on them to supply most of our energy needs. The World currently relies heavily on Fossil fuel (coal, oil and Natural gas).

Types of Renewable Energy resources are Solar Energy, Wind Energy, Biomass Energy, Hydrogen Energy & Fuel Cell, Hydropower Energy, Ocean Energy & Geothermal Energy

SOLAR ENERGY: We use solar thermal energy systems to heat water for use in homes, buildings, or swimming pools and to heat fluids to high temperatures in solar thermal power plants. Applications of solar energy includes Solar Pond, Solar distillation, Solar tower, Solar dryer etc. The main limitations of solar energy is the amount of sunlight that arrives at the earth's surface is not constant. The amount of sunlight varies depending on location, time of day, season of the year, and weather conditions.

WIND ENERGY : Wind turbines operate on a simple principle. The energy in the wind turns two or three propeller-like blades around a rotor. The rotor is connected to the main shaft, which spins a generator to create electricity. Wind turbines are mounted on a tower to capture the most energy. At 100 feet or more above ground, they can take advantage of faster and less turbulent wind. Wind turbines can be used to produce electricity for a single home or building, or they can be connected to an electricity grid for more widespread electricity distribution.

TIDAL ENERGY: Tidal Stream Generator makes use of the kinetic energy of moving water to

power turbines, in a similar way to wind turbines that use wind to power turbines.

Tidal barrages make use of the potential energy in the difference in height between high and low tides.

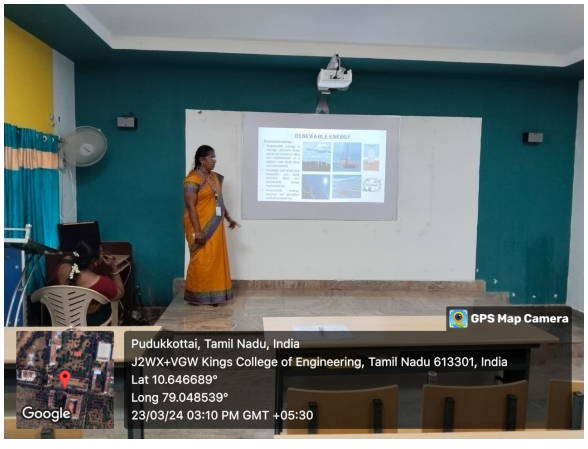
WAVE ENERGY: Ocean waves contain tremendous energy potential. Wave power devices extract energy from the surface motion of ocean waves or from pressure fluctuations below the surface.

GEO THERMAL ENERGY: (geo = earth and thermal = heat), geothermal energy comes from heat produced by the Earth. Beneath the surface (or crust) of the Earth, there are a number of heat-producing layers of rock, minerals, and magma, including the mantle, the outer core, and the inner core. The deeper you dig towards the center of the Earth, the hotter it gets. In fact, the core (about 4,000 miles beneath the surface), can reach temperatures of 7,600 degrees Fahrenheit. This heat which can be harnessed for energy is caused by residual heat from the formation of the Earth, as well as decay of radioactive isotopes.

BIO FUELS : The two most common types of bio fuels are ethanol and biodiesel.

Ethanol is an alcohol. Ethanol is mostly used as a fuel additive to cut down a vehicle's carbon monoxide and other smog-causing emissions. Biodiesel is made by combining alcohol (usually methanol) with vegetable oil, animal fat, or recycled cooking greases. It can be used as an additive to reduce vehicle emissions (typically 20%) or in its pure form as a renewable alternative fuel for diesel engines.

Totally 18 faculty members actively participated in this session and gained knowledge about Impact of Renewable Energy Sources. Vote of thanks was given by **Mrs.T. Gnanajeya**, Coordinator / ISTE Chapter.



Resource Person's Talk

Audience listening the seminar

27/3/24

Coordinator / ISTE Chapter

27/3/2024

PRINCIPAL

KINGS COLLEGE OF ENGINEERING
An Autonomous Institution
Affiliated to Anna University, Chennai, Approved by AICTE, New Delhi

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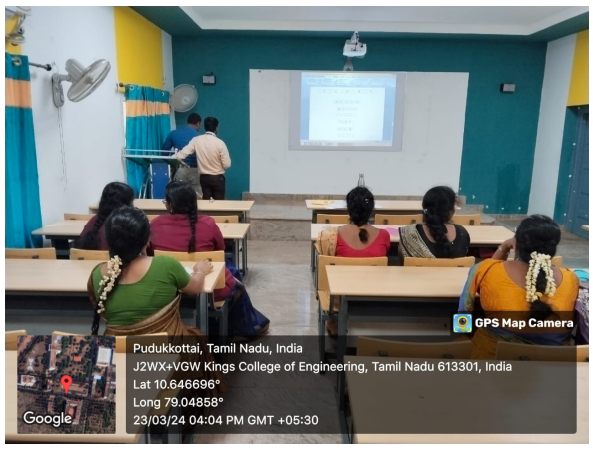
The ISTE Staff Chapter, Kings College of Engineering, organized a competition on **WORD COOKIES** on **23.03.2024** between 3.45pm and 4.20pm for the faculty members of the institution.

Prize Winners

POSITION	STAFF NAME WITH DESIGNATION
1	Mr.K. Arun, AP/CIVIL Mr.R. Sundharam, AP/CIVIL
2	Dr.S. Geetha, AP/Mathematics Ms.T. Abimalaiarasi, AP/Physics
3	Dr. A. Prabha, AP/EEE Ms.B. Bavithra, AP/CSE



Staff members actively participating in Word Cookies competition

27/3/24
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