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ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

Piglipur (V&P), Batasingaram (Post), Abdullapurmet (M), R.R.Dist., Hyderabad - 501 512.

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Manufacturing & production of Bio-diesel cell:

The civilization of a particular country has come to be measured on the basis of the number of automotive vehicles being used by the public of the country. The tremendous rate at which population explosion is taking place imposes expansion of the cities to larger areas and common man is forced, these days to travel long distances even for their routine works. This in turn is causing an increase in vehicle population at an alarm rate thus bringing in pressure in Government to spend huge foreign currency for importing crude petroleum to meet the fuel needs of the automotive vehicles. The large amount of pollutants emitting out from the exhaust of the automotive vehicles run on fossil fuels is also increasing as this is proportional to number of vehicles. In view of heavy consumption of diesel fuel in transport sector and agriculture sector lead to fast depletion of fossil fuels, the search for alternate fuels has become pertinent apart from effective fuel utilization which has been the concern of the engine manufacturers, users and researchers involved in combustion & alternative fuel research.

Fluoride research cell:

Fluoride being a highly electronegative element has extraordinary tendency to get attracted by Positively charged ions like calcium. Hence, the effect of fluoride on mineralized tissues like bone and teeth leading to developmental alternations is of clinical significance as they have highest amount of calcium, hence they attract the maximum amount of fluoride that gets deposited as calcium-fluorapatite crystals. About 95% of fluoride in the body is deposited in hard

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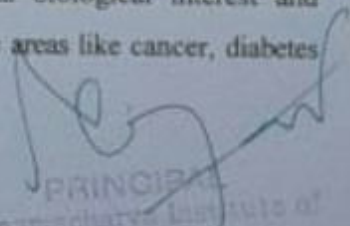
tissues and it continues to be deposited in calcified structure even after other bone constituents have reached the steady state. Fluorine is the thirteenth most abundant element in the Earth's crust. It rarely occurs as the element but normally is found as the fluoride ion or as a number of inorganic and organic fluorides. It occurs in varying concentrations in rocks, soil, water, air, plants and animals both naturally and as a consequence of human activity such as agricultural or industrial processes. Human exposure may be through any or all of these sources. Dissolution of fluoride-containing rock minerals is the source of naturally occurring fluorides in groundwater whereas application of phosphate fertilizers or sewage sludges or pesticides are the artificial source of fluoride in groundwater and surface water. Fluoride is found to be an important trace element playing a key role in the dental and skeletal formation in humans, it is generally believed that including human being consume fluoride largely from drinking water sources and the total daily intake of fluoride by individuals from water and other sources varies from place to place depending on the amount of fluoride availability in water. The Fluoride research cell is estimated in different areas in and around AITSHyderabad.

Musi River contaminated water development cell:

Musi River received large scale of untreated sewage from city of Hyderabad through industrial and domestic, disposal dumping sometimes medical wastage also dumped in the river. It is because rapid and uncontrolled urbanization. Due to water demand increased day by day in and around the greater Hyderabad, now drinking water inflows from Krishna, Manjeera and Godavari through the water pipelines to Hyderabad city and waste water release the city is disposed into the Musi river, Due to these reasons water smells unobjectable odour and people afraid to touch the river water. The investigation of physico-chemical parameters of water samples of river Musi located in and around Hyderabad city.

Drug discovery & development cell:

Synthesis of novel heterocyclic and analogues Palladium, copper and Iodine catalyzed reactions, design and synthesis of novel heterocyclic compounds of potential biological interest and Understanding the functions of proteins which contribute to therapeutic areas like cancer, diabetes and inflammatory diseases.


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Bio-Gas Development cell:

The Bio-Gas objective was to identify opportunities for coupling renewable biomethane with highly efficient fuel cells to produce electricity, heat; combined heat and power (CHP); or combined heat, hydrogen and power (referred to as CHHP or "trigeneration") for stationary or motive applications. The biogas sourced from wastewater treatment plants (WWTPs), landfills, and industrial facilities that generate or process large amounts of organic waste, including large biofuel production facilities (biorefineries). A range of technologies is important for the effective use of biogas to power fuel cells, including creating the biogas from waste products, cleaning or upgrading the biogas to meet the fuel purity specifications required for fuel cells (or injection into pipelines), and the fuel cells themselves. In a biorefinery, integrating fuel cells into the biomass-to-biofuel production systems requires an understanding of the individual process technologies as well as the complex thermal and mass balances from process to process.

Entrepreneur Development Cell:

The main objective of this cell is to train the students and integrate the culture of entrepreneur and to make the students to achieve their dreams of starting their own enterprise. Young graduating Engineering students across the country needed proper industrial exposure is essential. Awareness should be created among students, regarding entrepreneurship as a career option.

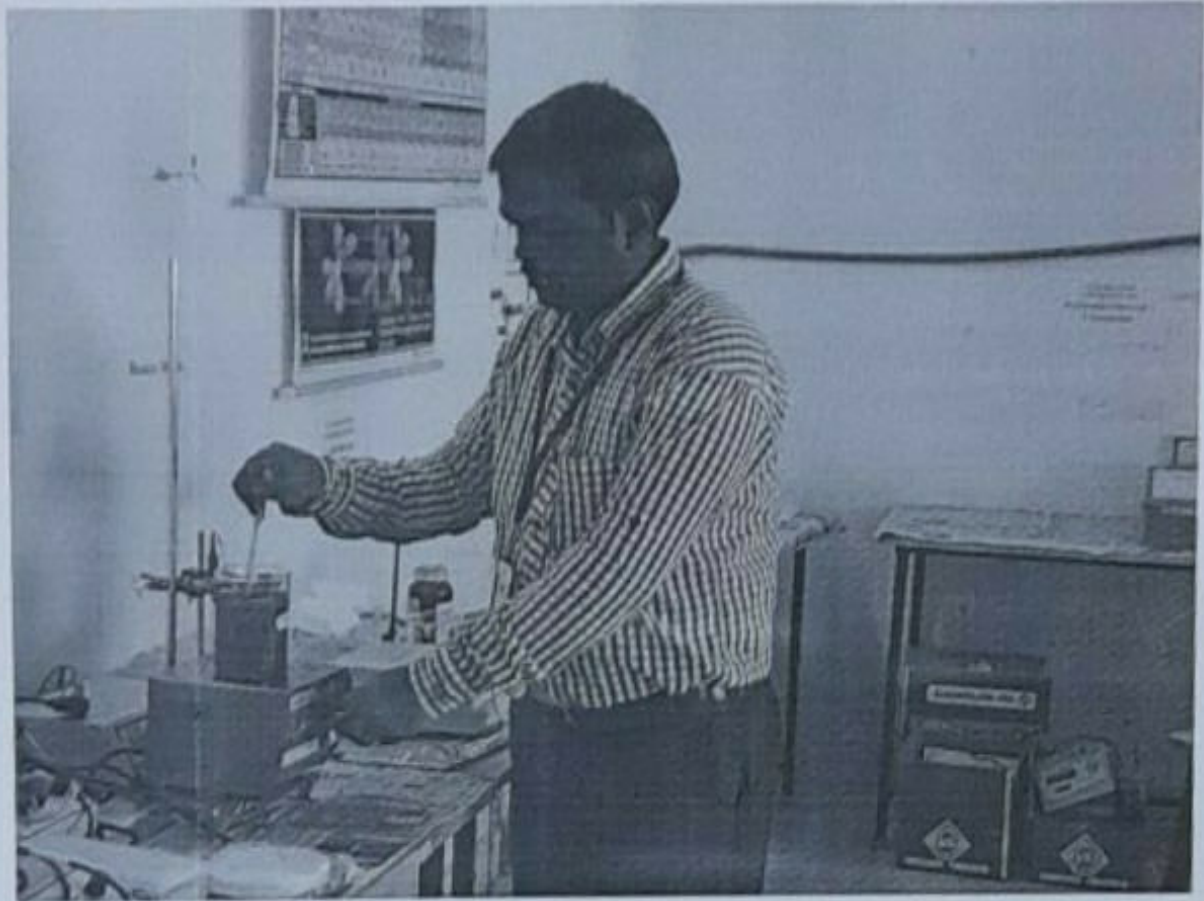
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R & D Cell:



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Fluoride research cell:



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