

RAIPUR INSTITUTE OF TECHNOLOGY

(Under the aegis of Mahanadi Education Society)

Approved by AICTE, New Delhi, Affiliated to CSVTU, Bilai



7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust.

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PRINCIPAL

RAIPUR INSTITUTE OF TECHNOLOGY
CHHATAUNA, MANDIRHASAUD, RAIPUR (C.G.)

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Certificate of Head of Institution

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09-12-2022

To Whom So Ever It May Concern

This is to confirm that the Institution is distinctive in two areas for the enrichment of academic programs: BARC Display Facility & Design, Thinking, Innovation & Drone Technology.

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7.3 Institutional Distinctiveness

7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words.

Response:

1.	Objective	• It is a complete Green Energy Cycle. • Real time example of carbon capturing • It has undertaken an ambitious mission of developments at village level, transforming lives of rural population. • In course of dissemination of such technologies to help improve day to day life of our villagers/deprived poor people.
2.	Context	Bhabha Atomic Research Center is a pioneer research institution to reckon with commanding its prestige, fame and credibility worldwide. Its area of research is wide spread, over varieties of domains, from coveted atomic energy to agriculture related areas down to biogas under non-conventional energy sources. BARC has active groups for research and development in reactor technologies, fuel reprocessing and waste management, isotope applications, radiation technologies and their application to health, agriculture and environment, accelerator and laser technology, electronics, instrumentation and reactor control and material science. String emphasis on basic and applied research in a number of core disciplines of science has made synergy between basic research and technology development possible. BARC has chosen an institution of educational excellence namely Raipur Institute of Technology(RITEE), Raipur and signed a Memorandum of Understanding with it for making Chhattisgarh rural population alive to effective technologies to improve their life in real terms. Additional Information in the arena of DTDDF: • Fluoride Detection And Associated Testing Kit Fluoride content in the water irrespective of any source is not only hazardous but also a potential threat to our life. To overcome the above issue, Fluoride Detection and associated Testing Kit as developed by BARC (DAE) are available in our campus. This is ideally an accurate rapid test and a ready solution to the users. The Kit is a simple, user-friendly and highly cost effective for the estimation of fluoride in water

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	sample in comparison with the currently available techniques. There is absolutely no dependence on sophisticated instruments for assembling the kit or using it. The procedure is as simple as adding a specified amount of kit reagent to the water sample to be analyzed and identifying the color developed. The color develops almost instantaneously and the distinction can be made with the naked eye. For ease of comparison a color chart as well as the color standards is provided in the kit. Water sample can be immediately categorized as being safe, marginal or unsafe for drinking from fluoride point of view. This comes in handy to either compare the levels of toxicity between two sources or to spot the least toxic source of groundwater in an area where the entire groundwater is found fluoride-contaminated. • Soil Organic Carbon Detection And Testing Kit Organic Carbon is an important indicator of soil fertility. Positive correlation between carbon content and crop field has been observed all over the world within different types of soil. There are difficulties to analyze organic carbon of soil regularly due to specific reagents. Appropriate skills and proper setup are also required, which are available only at some specific laboratories, which are quite low in number. Also, farmers are unable to monitor soil organic carbon on regular basis too. To overcome the above issue, Soil Organic Carbon Detection and Testing Kit as developed by BARC (DAE) are available in our campus. Absolutely, there is no dependence on sophisticated instruments for assembling the kit or using it. This is ideally a quick, accurate and field test and a ready guide the farmer for the purpose and the facilities. • On-Line Domestic Water Purifier Based On Ultrafiltration Polysulfone Membrane It is based on polysulfone type of ultrafiltration membrane in a cylindrical configuration to purify the domestic water with respect to microorganisms and suspended solids. The average pore size of the membrane is 10 nanometers, which is much smaller than the sizes of bacteria and most microorganisms. The device is based on size separation so anything above 10 nm would be removed whether suspended solids or large molecules. Removes bacteria to the extent of > 99.99% (4 log scale). The device is very compact and portable and can be easily installed and needs no electricity or addition of any chemicals. It has the provision to remove organic or coloring material, odor, suspended solids and organics if they are present in feed. Almost
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		maintenance free except occasional cleaning of deposits on the membrane surface. The device works between the tap pressures of 5 psig to 35 psig with average rate of filtration: 15 to 20 lph.
3.	Practice	Inching towards the mission, DTDDF Center of BARC at Raipur Institute of Technology, has undertaken use of various technologies for awareness and training amongst rural population
4.	Evidence of success	Successfully being used as a green energy in the fraternity of conventional energy consumption
5.	Problem Encountered	Continuity of Jatropha seeds availability for smooth functioning of the process
6.	Resources Required	Significant quantity of Jatropha seeds and its availability with appropriate quality for sustainable operation on continuous basis

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