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(51) International classification	:C02F0101140000, F24S0010400000, H02S0020300000, C02F0001140000, F24D0017000000	(71)Name of Applicant : 1)DR.SWAPNILA ROY Address of Applicant :AT-HATAMALA, P.O-BANDALO, VIA TIGIRIA, DIST-CUTTACK, ODISHA-759030 Orissa India 2)MAHUYA DAS 3)DR.ARUN SOLANKI 4)DR.SHWETA TRIPATHI 5)DR. ANUJ KUMAR SINGH 6)MR.SANDEEPAN SAHA 7)DEEPAK KUMAR 8)DR.SHASHANK SRIVASTAV 9)MANU PHOGAT 10)DR.PANKAJ DADHEECH 11)SUBHAJIT KUNDU 12)DR.SAYAN ROY CHOWDHURY
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(57) Abstract :

Fluoride tainting in water may create ecological dangers. In this examination, the combination of bio diminished graphene oxide (TPGO,50%) and calcium impregnated silica joined with titanium dioxide (Ca-SiO₂-TiO₂,50%) were utilized for fluoridation limit which was investigated. The ideal conditions for the boundaries like adsorbent portion, temperature, and contact time to research the fluoride expulsion proficiency. It was seen that the incorporated item have higher de-fluoridation effectiveness. The balance information for de-fluoridation by bio diminished graphene oxide (TPGO) and calcium impregnated silica joined with titanium dioxide (Ca-SiO₂-TiO₂) were best fitted to the Langmuir isotherm model. The test results were applied to get factual investigation. The outcomes proposed that there was a nearer communication among exploratory and hypothetical outcomes. Generally, the combination of those adsorbents were an earth kind and savvy alternative for defluoridation. This eco agreeable methodology is used in sun based helped electronic defluoridation gadget which comprises of sun based board, programmed stirrerconnected with DC Motor) with filtration unit so fluoride free water will be acquired for drinking reason by enormous mass. From the viewpoint of pragmatic application, the water supply framework which is straightforwardly associated with tube well or artesian well, the defluoridation gadget will be added there to get fluoride free drinking water for utilization. Along these lines, it very well might be inferred that this creative and practical gadget will be helpful for society.

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