



पेटेंट कार्यालय, भारत सरकार **The Patent Office, Government Of India**
पेटेंट प्रमाण पत्र **Patent Certificate**

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प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित **A METHOD OF TREATMENT OF DOMESTIC WASTE WATER BY ELECTROCHEMICAL MEMBRANE BIOREACTOR AND GENERATION OF BIOELECTRICITY** नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख फरवरी 2023 के पंद्रहवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled **A METHOD OF TREATMENT OF DOMESTIC WASTE WATER BY ELECTROCHEMICAL MEMBRANE BIOREACTOR AND GENERATION OF BIOELECTRICITY** as disclosed in the above mentioned application

for the term of 20 years from the 15th day of February 2023 in accordance with the provisions of the Patents Act,1970.



(Signature)
इकांत की अंसि

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टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, फरवरी 2025 के पंद्रहवें दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।
Note - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 15th day of February 2025 and on the same day in every year thereafter.

*चूंकि पेटेंटी व आविष्कारकों की संख्या अधिक है, पेटेंटी व आविष्कारकों के नाम पृष्ठ संख्या 2 पर जारी हैं।
*Since the Number of Patentees / Inventors is more, the name of Patentees / Inventors are continued on Page No. 2

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(57) Abstract :

The present invention relates to treating wastewater that meets high quality standards for discharge or reuse necessitates the use of highly efficient wastewater treatment techniques. In the present invention, experiments have carried out to reduce the concentration level of biological oxygen demand (BOD), chemical oxygen demand (COD), and total dissolved solids (TDS) from the wastewater sample. Treatment of sample of a real municipal wastewater collected from sewage treatment plant (STP) is carried out in an electrochemical membrane bioreactor (EMBR). The EMBR operated continuously for five days, and readings are taken at regular intervals. These experimental results conducted in EMBR that indicate reduction of BOD, COD, and TDS levels of up to 40.28%, 35.44%, and 32.15 %, respectively. Further, it observed that a current of magnitude of 0.04208 mA generated due to metabolic activities of bacteria present in municipal wastewater, which gradually decreased day by day due to the decay of bacteria.

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