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Customized Cow’s Urine Battery Using MnO2 Depolarizer

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Abstract : Bio-battery represents an entirely new long term, reasonable, reachable and ecofriendly approach to production of sustainable energy. Types of batteries have been developed using MnO₂ in various ways. MnO₂is suitable with physical, chemical, electrochemical, and catalytic properties, serving as an effective cathodic depolarizer and may be considered as being the life blood of the battery systems. In the present experimental work, we have studied the effect of generation of power by bio-battery using different concentrations of MnO₂. The tests show that it is possible to generate electricity using cow’s urine as an electrolyte. After ascertaining the optimum concentration of MnO₂, various battery parameters and performance indicates that cow urine solely produces power of 695 mW, while a combination with MnO₂ (40%) enhances power of bio-battery, i.e. 1377 mW. On adding more and more MnO₂to the electrolyte, the power suppressed because inflation of internal resistance. The analysis of the data produced from experiment shows that MnO₂ is quite suitable to energize the bio-battery.

Keywords : bio-batteries, cow’s urine, manganese dioxide, non-conventional
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