VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM-590018

A PROJECT REPORT ON

"TREATMENT OF PAPER AND PULP WASTE WATER BY UP-FLOW ANAEROBIC HYBRID REACTOR"

(KSCST SPONSORED)
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ABSTRACT

In the present study, a laboratory scale Up-Flow Anaerobic Hybrid Reactor (UAHR) was constructed for treating paper and pulp waste water using non-recyclable polymer and granite pieces as packing media or filter media. The reactor was operated at different Hydraulic Retention Time (HRT) i.e. 24, 16 and 8 hours at a feed concentration of 700mg/l COD to obtain the optimum Hydraulic Retention Time (HRT) and it was found to be 16 hours. After finding the optimum HRT the feed concentration was varied with an increment of 700mg/l, from 700mg/l to 2750mg/l COD to find the optimum feed concentration. The optimum feed concentration of the reactor was found to be 2500mg/l where total COD removal efficiency was 91.57% and total BOD removal efficiency was about 66.70% and bio-gas production was 1.2 L/day. At maximum feed concentration of reactor, 2750mg/l, the Total Solids (TS) removal efficiency was 82.27%, the Suspended Solids (SS) removal efficiency was 82.9% and the Dissolved Solids (DS) removal efficiency found to be 86.15%.The reactor was operated at a room temperature varying from 27°C to 33°C.