

## Biofuels (30 days)

<b>Module Content</b>
Orientation Program, General Introduction to Solid Waste Management
Lab Visit: Proper Demonstration of Instruments and Good Laboratory Practices
Preparation of Buffers and Reagents and Introduction to Lab Mathematics and Manuals
Determination Procedure of Physical Parameter of Solid Waste Testing by HANNA EDGE <ul style="list-style-type: none"><li>● pH</li><li>● temperature</li><li>● Electrical conductivity</li><li>● TDS</li><li>● Salinity</li></ul>
Determination Procedure of Chemical Parameter of Solid Waste Quality Testing <ul style="list-style-type: none"><li>● Determination of organic matter</li><li>● Determination of volatile and non-volatile substances</li><li>● Determination of volatile fatty acid</li><li>● Estimation of Ammonia nitrogen</li><li>● Determination of Nitrate nitrogen</li><li>● Determination of Total phosphorus</li><li>● Determination of Available phosphorus</li><li>● Determination of soluble and total Chemical oxygen demand</li><li>● Determination of total, suspended and dissolved solids</li></ul>
Determination Procedure of Biochemical Parameter of Solid Waste Quality Testing <ul style="list-style-type: none"><li>● Determination of Acid insoluble lignin</li><li>● Determination of Acid soluble lignin</li><li>● Determination of Cellulose</li><li>● Determination of Hemicellulose</li></ul>
Enumeration of microbial index by standard plate count method (SPC)
Pretreatment Techniques of Solid Waste for Enhanced Biogas Production <ul style="list-style-type: none"><li>● Physical pretreatment</li><li>● Chemical pretreatment</li><li>● Biological</li></ul>

Determination and estimation of biogas production using pretreated waste samples

Toxicity testing of waste samples before and after biogas production for environmental safety

Visit of Biogas Plant - Durgapura Gaushala, Jaipur

Visit of Biogas set-up - BIBT Campus