



Pimpri Chinchwad Education Trust's  
**Pimpri Chinchwad College of Engineering**



**Final Year B.Tech. Project- Abstract**

**Department:**

<b>Project Title</b>	Design of Filter Bed Using Fly Ash
<b>Names of Team Members</b>	Mr. Patnaik Deepakkumar Jamini Mr. Mundhe Sujit Sakharam Mr. Naiknaware Pravin Ramchandra Mr. Khandagale Sagar Sunil
<b>Name of the Guide/s</b>	Prof. Mr. S.D. Kurhade, Prof. Mr. Ganesh W. Rathod, <i>PE</i> (Co-Guide)
<b>Abstract</b>	<p>Fly ash is a waste material rich in silica and alumina becomes a raw material to produce zeolite. Fly Ash can also be used as a low-cost and highly efficient adsorbent for treatment of environment pollutants. Synthesis of zeolites from fly ash is an ecologically justified process aimed at the transformation of energy sector waste – fly ash into microcrystalline zeolites of broad possible application field. In this study, the synthesis of zeolites from fly ash by using a Hydrothermal synthesis was presented. The aim of such a planned experiment was to use the waste solutions from the industry, in such a way that minimalization of negative influence of fly ash on environment was possible. The zeolites have enormous applications in the removal of various toxic materials like pesticide, ammonium ions and heavy metals from wastewater. It has the natural ability to trap toxic gases and odors such as ammonias and carbon monoxide. The synthesized products were characterized by X-ray powder diffraction (XRD) and scanning electron microscopy (SEM), and studied for its purity and yield.</p> <p>The specific objectives of the project is to study the extraction process of zeolite from fly ash, the properties and characteristics of the fly ash and zeolites produced from these processes.</p>
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