

**PMI8J002**

**CEMENT TECHNOLOGY**

**Module-I ( 8 Hours)**

Overview of Indian cement industry and global scenario.

Raw materials used in cement manufacturing and their mineralogy, Size reduction and drying of raw materials, Finish grinding

**Module-II ( 10 Hours)**

Various processes of cement manufacturing: dry and wet, overview of various unit operations

Pre-homogenization of raw mixture: Phase composition of clinker minerals and cement, pozzolanic reaction, hydration of cement, Raw mix proportioning, 2-, 3- and 4-component mixes, concepts of burn ability, absorption and effect of coal ash

**Module-III ( 10 Hours)**

Burning and cooling: Kiln burning and control, different zones in a cement kiln, pre-heating and pre-calcinations, burners, Clinker cooling, Fuels in cement industry, waste-derived fuels, Pet coke, refractory and refractory practices. Cement milling and separation

**Module-IV ( 8 Hours)**

Approaches to energy conservation, energy audit, co-generation of power, pollution control, noise abatement, concepts of LCA, EIA and EMP.

**Books:**

1. The Cement Plant Operations Handbook: P.A. Aslop, Tradeship Publications Ltd.
2. Cement Data Book: W. H Duda , Verlag Gmbh, Berlin, R. H. Bouge.