

## **AMMR-23: Fuel, Refractories and Furnaces**

### **Course Details:**

Conventional and newer sources of energy management, problems in metallurgical industries, role of high temperature systems and materials. Deposits manufacturing, properties and testing of solid, liquid and gaseous fuels, Principles of combustion and burner design, classification of refractories, manufacturing and properties of common refractories such as silica, fire clay, high alumina, dolomite, magnesite and chrome refractories, design of, high temperature furnaces, waste heat utilization, heat recuperators and regenerators, stac.: design, gas cleaning, heat balance diagrams, furnace dynamics, fluid and heat flow calculations, fuel fired furnaces, electric arc furnaces, vacuum, electron beam, plasma, laser furnaces.

### **Text Books and Reference:**

1. Refractories and furnaces, Francis Thompson Havard (Mc-Graw Hill)