

AMCT18 REFRACTORIES II

UNIT-1 REFRACTORIES FOR IRON & STEEL INDUSTRY

- 1.1 Refractories used in - coke oven,
- 1.2 Blast furnace, open hearth furnace,
- 1.3 LD converter, THF, EAF, IF, Ladle furnace,
- 1.4 Slide plate system, nozzle, shroud,
- 1.5 Continous casting, monolithics
- 1.6 Gunning technique, refractory slag and metal interactions.

UNIT-2 REFRACTORIES FOR NON FERROUS & NON METALLIC INDUSTRIES

- 2.1 Refractories in non-ferrous industries- copper, aluminum, lead
- 2.2 Refractories in non-metal industries-
- 2.3 Hydrocarbon industry, fertilizer industry, cement industry.

UNIT-3 REFRACTORIES FOR GLASS AND CERAMIC INDUSTRY

- 3.1 Refractories for glass industry-
- 3.2 Refractory practices in sidewall, throat,
- 3.3 Fore hearth and roof of glass tank, regenerator systems,
- 3.4 Refractories for ceramic industry
- 3.5 Kiln design- LTM concept, kiln furniture's
- 3.6 Types, properties, requirements
- 3.7 Applications in different ceramic industry.

UNIT-4 REFRACTORIES FOR INSULATION

- 4.1 Purpose of insulation
- 4.2 Types of insulating materials and preparation of insulating
- 4.3 Refractories, ceramic fibre products
- 4.4 Design and installation
- 4.5 Ceramic coatings.

UNIT-5 REFRACTORIES FOR SPACE & NUCLEAR APPLICATIONS

- 5.1 Ceramics for space
- 5.2 Materials used in space satellite, missiles, rockets nozzles,
- 5.3 Ceramics for nuclear reactors
- 5.4 Types of reactors, structural ceramic materials,
- 5.5 Ceramic fuel elements, control rod elements.

Reference Books:

1. Chesters J.H, Steel Plant Refractories, 2nd Edn, United Steel Company Limited, UK, 1973