Q.27 Explain testing method of permanent liner change.

Q.28 Explain manufacturing of Magenisium-Chrome refractories.

Q.29 Explain the role of phase diagram in refractory manufacturing.

Q.30 Explain terms compressive.

Q.31 Explain why permeability of refractory is important in metallurgical industries.

Q.32 Explain term thermal conductivity.

Q.33 Explain thermal spalling/shock resistance.

Q.34 Explain the refractoriness testing method.

Q.35 List the factors effecting selection of raw material for any refractory.

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Describe the method used for determination of refractoriness of a refractory sample.

Q.37 Explain manufacturing of fireclay refractory, with its properties and uses.

Q.38 Describe the Al_2O_3-SiO_2 phase diagram with the help of neat sketch.

b)

Roll No.....

4th Sem / Ceramic Engg.

Subject : Ceramic Refractory Technology-I

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Multiple choice questions. All questions are compulsory. (10x1=10)

Q.1 A Refractory should have high

a) Spalling rate b) Fusion point

c) Shrinkageability d) None of these

Q.2 Segar cones are used for the determination of ____ of refractories.

a) Softening temperature

b) Spalling resistance

c) Electrical conductivity

d) Resistance to slag attack

Q.3 Insulating refractory should have

a) High thermal conductivity

b) Low porosity

c) High porosity

d) Low Slag penetration resistance

Q.4 Sillimanite is a _____ refractory.

a) Basic b) Neutral

c) High alumina d) Insulating

Q.5 Which is not a high alumina refractory?

a) Mullite b) Corundum

c) Bauxite d) Dolomite

Q.6 Cold crushing strength of a refractory does not depend upon its

a) Shape b) Composition

c) Firing temperature d) Thermal conductivity

Q.7 Highest melthing (m.p.=3070^{0}c) oxide refractory is?

a) Alumina b) Thoria

c) zirconia d) Magnesia

Q.8 Which of the following is not a neutral refractory?

a) Silicon carbide b) Magnesite

c) Chromite d) Graphite

Q.9 Chemically formula of Mullite is

a) $Al_2O_3, 2SiO_2$ b) $3Al_2O_3, 2SiO_2$

C) Al_2O_3, SiO_2 d) $2AI_2O_3, 3SiO_2$

Q.10 Fusion temperature of pure silica (SiO_2) is_)_____^{0}C

a) 1350 b) 1715

c) 2570 d) 2800

SECTION-B

Note : Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Spalling tendency of refractories is reduced by increasing its porosity. (True/False))

Q.12 Refractory is used to retain heat in furnace. (True/False))

Q.13 High alumina refractory is acidic in nature. (True/False))

Q.14 Refractories can fired in tunnel kiln.(True/False)

Q.15 Cold crushing strength test is done to check the strength of refractory. (True/False)

Q.16 Neutral refractories are neither attacked by acid slag norby basic slag. (True/False)

Q.17 $CaCo_3MgCo_3$ is formula of _____. (Dolomite/Magnesite)

Q.18 Silica refractory can be used in blast furnace. (True/False)

Q.19 Insulation refractory has high density. (True/False)

Q.20 Sillimanite refractory contains Al_2SiO_3. (True/False)

SECTION-C

Note : Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Define refractory and give its classification.

Q.22 List uses of fire clay refractories.

Q.23 Explain slag resistance property.

Q.24 Explain basic refractory with examples.

Q.25 Write names of some refractory manufacturing industries.

Q.26 Explain the manufacturing of dolomite refractory.