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Roll No.

220451

5th Sem. / Ceramic
Subject : Refractory Applications

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 Examples of special refractory is _____.
a) Dolomite refractory
b) Quartz refractory
c) Silicon carbide refractory
d) Mag-chrom refractory
- Q.2 Which is required in an insulating refractory?
a) Low permeability b) High specific gravity
c) Low porosity d) High Porosity
- Q.3 Thermal conductivity is related with _____.
a) High density b) High specific gravity
c) High porosity d) None
- Q.4 What is hearth in a furnace?
a) The electrodes are often called hearth
b) The bowl shaped bottom of the furnace
c) The walls of the furnace
d) The dome shaped roof of the furnace

- Q.5 Tank furnace is used to make_____.
- a) Steel b) Iron
- c) Glass d) Tile
- Q.6 Which of the following is a slow rise of plastic deformation under the action of shear stresses when it is below the yield strength of the material?
- a) Brittle fracture b) Ductile fracture
- c) Creep d) Fatigue

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Monolithic means single layer. (True/False)
- Q.8 PLC means_____.
- Q.9 Porosity of insulating refractory brick should be low. (True/False)
- Q.10 Cermets are used in making of cutting wheels. (True/False)
- Q.11 SiC refractories are used in making of crucibles. (True/False)
- Q.12 Alumina-Silica phase diagram is one component system. (True/False)

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

- Q.13 Explain Saggars.

- Q.14 Explain preparation of cermets.
- Q.15 Discuss refractories used in Soaking pits.
- Q.16 Discuss refractories used in tunnel kiln.
- Q.17 Discuss preparation of cast Iron.
- Q.18 Explain refractories used in Reheating furnace.
- Q.19 Explain castables.
- Q.20 List the different refractories used in coke oven.
- Q.21 Explain basic oxygen furnace.
- Q.22 Explain general safety precautions to be taken during refractory erection.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

- Q.23 Describe the testing method of determination of HOT MOR of a given sample of refractory.
- Q.24 Describe the refractories-used in different parts of BLAST FURNACE with the help of neat sketch.
- Q.25 Describe utilization of grog, blast furnace slag, fly ash in making refractories.