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Roll No. .....

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 Which is required in an insulating refractory?

a) Low permeability

b) High specific gravity

c) Low porosity

d) High porosity

Q.2 Examples of special refractory is_____

a) Dolomite refractory

b) Quartz refractory

c) Silicon carbide refractory

d) Mag-chrom refractory

Q.3 Thermal conductivity is related with_____

a) High density b) High specific gravity

c) High porosity d) none

SECTION-D

Note: Long answer type questions. Attempt any two questions 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 blast furnace of with the help of neat sketch.

Q.25 Describe the manufacturing process of INSULATION refractory and also list the properties and uses of it.

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 SiC refractories are used in making of cutting wheels. (T/F)

Q.8 Permanent linear change test determines the_____ of refractories.

Q.9 BOF means_____

Q.10 Monolithic means multiple layers.(T/F)

Q.11 Magnesia-silica phase diagram is two component system. (T/F)

Q.12 PLC means_____.

SECTION-C

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

Q.13 Explain Saggers.

Q.14 Explain grog.

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 crucible.

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.