

- Q.17 Discuss lining pattern and type of refractory used in EAF steel making.
- Q.18 Explain phase diagram .
- Q.19 Explain special refractories..
- Q.20 Discuss types of refractory in lime and dolomite kilns
- Q.21 List the advantage of monolithic refractory over shaped refractory.
- Q.22 Explain HOT MOR test.

### **SECTION-D**

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

- Q.23 Explain the manufacturing process of Silicon - carbide refractory and also list the properties and uses of it.
- Q.24 Describe the refractories-used in different parts of GLASS TANK FURNACE with the help of neat sketch .
- Q.25 Describe the testing method of determination of permanent linear change of a given sample of refractory.

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### **5th Sem / Ceramic Engineering**

#### **Subject : REFRACTORY APPLICATIONS**

Time : 3 Hrs.

M.M. : 60

### **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Carbon refractories are exclusively used in the
- Hearth of blast furnace
  - Side wall of soaking pits
  - Re generators of coke oven
  - Wall of coke oven
- Q.2 Refractory castables are used for
- Producing monolithic linings
  - Patch work
  - Both A and B
  - None

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**Q.3** Insulating refractories having

- a) Low thermal conductivity
- b) High thermal conductivity
- c) Medium conductivity
- d) none

**Q.4** The largest consumer of refractories is the

- a) Cement plant      b) Power plant
- c) metallurgical plant d) Fertiliser plant

**Q.5** Cermets are used in the

- a) Hearth of the blast furnace
- b) Nuclear reactors, missiles & space crafts
- c) Insulation of high temperature furnaces
- d) Roof of electric furnaces

**Q.6** Silicon Carbide has chemical formula

- a) CaO                  b) SiB
- c) SiC                  d) HCl

## **SECTION-B**

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

**Q.7** SiC refractories are used in marking of cutting wheels.(true/false)

**Q.8** Permanent linear change test determines the \_\_\_\_\_ of refractories.

**Q.9** BOF means \_\_\_\_\_.

**Q.10** Monolithic means multiple layer. (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** Discuss preparation of crucible.

**Q.14** Explain Castables.

**Q.15** Discuss Cement Rotary kiln .

**Q.16** Explain refractories used in basic and open hearth furnace.