- Q.23 Explain moisture estimation in glass sample.
- Q.24 Discuss preparation of glass batch.
- Q.25 Explain tank temperature of glass.
- Q.26 Explain viscosity.
- Q.27 Explain functions of basic oxides in glass making.
- Q.28 Explain fundamental concepts of glassy state.
- Q.29 Explain phase equilibrium studies.
- Q.30 Tell use of port in glass melting.
- Q.31 Explain importance of surface tension in glass making.
- Q.32 Explain conveying of materials.
- Q.33 Explain batch type furnace.
- Q.34 Discuss pot furnace.
- Q.35 Explain, discuss removal of iron from glass sand.

SECTION-D

- **Note:**Long answer type questions. Attempt any two questions out of three questions. 2x10=20
- Q.36 Describe chemical composition of different type of glasses.
- Q.37 Explain the manufacturing process of insulating refractory and also list the properties and uses of it.
- Q.38 Discuss all the steps involve in making of glass in industry.

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4th SEM / Ceramic Engg. Subject : Glass Technology I

Time : 3 Hrs.

M.M.: 100

SECTION-A

- **Note:**Multiple choice questions. All questions are compulsory (10x1=10)
- Q.1 Broken glass pieces used in tank furnace for the manufacturing of glass is known as
 - a) Grog b) Wood
 - c) Pullet d) Cullet
- Q.2 Which metal oxide gives blue colour to the glass?
 - a) Cobalt oxide b) Fire oxide
 - c) Iron oxide d) Zinc oxide
- Q.3 In which country the glass was made earlier?
 - a) England b) Egypt
 - c) India d) US
- Q.4 Which of these is network formers oxide?
 - a) B_2O_3 b) SiO_2
 - c) AI_2O_3 d) Na_2O

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- Q.5 Melting of glass is carried out at temperature raging from
 - a) 300*C to 600*C b) 130*C to 160*C
 - c) 1300*C to 1600*C d) 1900*C to 2600*C
- Q.6 Which of the following is chemical refining agents?
 - a) AI_2O_3 b) AS_2O_3
 - c) Na₂O d) none
- Q.7 Which of the following furnace is used for melting of glass _____
 - a) kiln b) dryier
 - c) crown d) pot
- Q.8 Primary components of glass is _____
 - a) Crystal b) sand
 - c) Silica d) Limestone
- Q.9 Tank furnace is used to make _____
 - a) steel b) iron
 - c) glass d) tile
- Q.10 The viscosity of glass, as measured in centimeter-gram-second units known as
 - a) coise b) poise
 - c) celcius d) kg/m
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SECTION-B

- **Note:**Objectives type questions. All questions are compulsory. 10x1=10
- Q.11 Soda is glass former. (true/false)
- Q.12 Ferrous oxide imparts _____ colour to glass.
- Q.13 Increase in soda in glass decreases the viscosity of glass. (true/false)
- Q.14 The working temp depend on viscosity (10⁴ poise) of glass and size of ware to be made. (true/false)
- Q.15 Formula of lithium oxide is _____.
- Q.16 Melting of glass is carried out in _____ furnace and _____ furnace.
- Q.17 Raw material must be reliable to supply glass forming oxide for which it is used. (true/false)
- Q.18 Lithia is more powerful _____ then soda and potash.
- Q.19 Non-oxide formers are arsenious sulphate (A_2S_3) berilium fluoride (BeF_2) , Zinc chloride $(ZnCl_2)$. (true/false)
- Q.20 Glass is brittle. (true/false)

SECTION-C

- **Note:**Short answer type questions. Attempt any twelve questions out of fifteen questions. 12x5=60
- Q.21 List the purpose for uses of chimney draft.
- Q.22 List the physical properties of glass.

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