

- 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 concept 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 List the purpose for uses of chimney draft.

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x10=20)

- Q.36 Describe about all the raw materials used for making glass batch.
- Q.37 Explain construction and working of glass tank furnace used for making of glass.
- Q.38 A batch is made by mixing 50kg of sand, 35kg of soda feldspar and 15kg of limestone. Calculate its chemical composition. (Take atomic weight of Si=28, O=16, Ca=40, Na=23, C=12, Al=27).

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Roll No.

4th Sem.

Branch : Ceramic

Sub.: Glass Technology-I

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

- Q.1 Which of these is network formers oxide?
- a) B_2O_3 b) SiO_2
- c) Al_2O_3 d) Na_2O
- 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 earliest?
- a) England b) Egypt
- c) India d) US
- Q.4 Broken glass pieces used in tank furnace for the manufacturing of glass is known as
- a) Grog b) Wood
- c) Pullet d) Cullet
- Q.5 Melting of glass is carried out at temperature ranging from
- a) $300^{\circ}C$ to $600^{\circ}C$ b) $130^{\circ}C$ to $160^{\circ}C$
- c) $1300^{\circ}C$ to $1600^{\circ}C$ d) $1900^{\circ}C$ to $2600^{\circ}C$

- Q.6 Which of the following furnace is used for melting of glass_____.
- a) Kiln b) Dryier
c) Tank d) None
- Q.7 How does the addition of magnesia and alumina affect soda lime glass?
- a) Enhances mechanical strength
b) Reduces porosity
c) Increases Softening temperature
d) Improves chemical durability
- Q.8 What is the chemical formula of phosphorous pentoxide?
- a) P_2O_5 b) PO
c) P_3O_4 d) PO_4
- Q.9 The refractive index of a particular type of glass depends on its_____.
- a) Colour
b) Composition and on the wavelength of the light
c) Texture
d) Critical point
- Q.10 As a consequence, light energy travels through glass instead of being absorbed and reflected, so that glass is
- a) Bend b) Opaque
c) Transparent d) Weak

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SECTION-B

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

- Q.11 Waste glass and broken and bad wares are known as cullet. (True/False)
- Q.12 Glass is _____ cooled material.
- Q.13 Alumina increases devitrification tendency of glass. (True/False)
- Q.14 Crown of tank furnace is made up of silica brick. (True/False)
- Q.15 The bottom surface of the pot has elliptical shape. (True/False)
- Q.16 Increase in soda in glass decreases the viscosity of glass. (True/False)
- Q.17 The capacity of tank is 180 tans of glass per day. (True/False)
- Q.18 Refining is achieved by adding chemical refining agents such as _____.
- Q.19 The melting temperature are controlled by pyrometers. (True/False)
- Q.20 Hardness of glass can be measured by _____.

SECTION-C

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

- Q.21 Explain Discuss removal of iron from glass sand.
- Q.22 List the physical properties of glass.

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