

- No. of Printed Pages : 4 180444/120444/030444
Roll No.

Time : 3Hrs. M.M. : 100

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Primary components of glass is _____
- a) Crystal b) Sand
c) Silica d) Limestone
- Q.2 Which of the following furnace is used for melting of glass-
- a) kiln b) dryer
c) crown d) pot
- Q.3 Which of the following is chemical refining agents?
- a) Al_2O_3 b) As_2O_3
c) Na_2O d) None
- Q.4 Tank furnace is used to make _____
- a) Steel b) iron
c) glass d) tile

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

- Q.36 Describe all the steps involve in making of glass in industry.
- Q.37 Discuss chemical composition of different type of glasses.
- Q.38 Explain the manufacturing process of insulating refractory and also list the properties and uses of it.

- Q.5 The viscosity of glass, as measured in centimetre-gram-second units known as
- a) coise b) poise
c) celcius d) kg/m
- Q.6 What is the melting temperature of fused quartz?
- a) 1112° C b) 1328° C
c) 1525° C d) 1723° C
- Q.7 Mention three network modifiers of oxide glasses:
- a) Na₂O, CaO, B₂O₃ b) K₂O, Al₂O₃, Li₂O
c) K₂O, CaO, Na₂O d) B₂O₃, Na₂O, SiO₂
- Q.8 The weight percentage of external cullet in raw materials batches
- a) 25-50% b) Can be as high as 90%
c) 10% d) 90%
- Q.9 The primary difference between a ceramic and a glass is based on its _____
- a) Solubility b) Crystallinity
c) Conductivity d) Permeability
- Q.10 Which metal oxide gives red colour to the glass
- a) Cuprous oxide b) Iron oxide
c) Fire oxide d) Antimony oxide

(2) 180444/120444/030444

SECTION-B

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

- Q.11 Formula of lithium oxide is _____.
- Q.12 Melting of glass is carried out in _____ furnace and _____ furnace.
- Q.13 Increase in soda in glass decreases the viscosity of glass. (True/False)
- Q.14 The working temp depend on viscosity (10^4 poise) of glass and size of ware to be made. (True/False)
- Q.15 Soda is glass former. (True/False)
- Q.16 Ferrous oxide imparts _____ colour to glass.
- 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 _____ than soda and potash.
- Q.19 Non-oxide formers are arsenious sulphate (As₂S₃), berilium fluoride (BeF₂), Zinc chloride (ZnCl₂) (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 composition of any glass.
- Q.22 Explain network modifier.

(3) 180444/120444/030444